NATURAL THEOLOGY

AND

GENESIS.

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PREFACE.

A natural theology treats of the existence and character of God as these may be known from reason and nature. A natural theology in its relations to Genesis accredits the form of the argument and the sequence of the thought to inspiration.

We feel warranted in this contradictory form of title from the fact, that on a close analysis of the record of creation the argument proceeds in the steps followed by those who have discussed the question in a natural theology, presenting their evidences from the ontological, the cosmological, the teleological, and the moral sources. If now we attempt to write an exposition on the record of creation we naturally fall into this line of argument. And it is found on close analysis of the record of creation, that God has already given us a work on natural theology.

The last point is drawn out at great length in other parts of scripture, and we further note, that if we would formulate our theology faultlessly we must follow the Word of God. It is found also that when we have written our natural theology we have also written a satisfactory exposition on the record of creation.

In this theses on natural theology we endeavor to follow the sequence of thought as given by inspiration because of its comprehensiveness, and also for the purpose of bringing into review the relation that exists between the creations and the record of them given by inspiration. Endeavoring if possible to remove some difficulties that have been in the way of a correct understanding of the theology as we think it. These hinderances have arisen in part at least from several errors as it seems to us, that have found their way into works on natural

science, by the help of which the questions are to be solved, and the true relations that exist between nature and theology be pointed out, and either an exposition or a natural theology be written.

One such error is found in the assumption that all matter, at first, existed as a class of nebulae, or fire mist, diffused in infinite space, out of which the worlds were supposed to have been made. (Denied by Heb. 11-3).

Another such error is the theory of evolution, by which this nebulae was supposed to have been turned into worlds and other forms of material things.

Another such error is found in the separation of light from the wider theme of radiation, while in nature they are one, governed by the same series of natural laws.

Another such error is the assumption that molten rock material shrinks in cooling, while in fact, it expands, as does water when congealing into ice. The error has led into a theory concerning the appearance of dry land, or continental areas, by another agency than that thought in the creative record.

Another such error is found in the assumption that sun light and heat are produced by the condensation of the rock material and other elements composing the sun, by the force of gravity, while most things show that the light and heat of the sun depend on its peculiar structure.

Another such error is found in the peculiar stress laid on the law of variability, that governs, in part, all forms of animal and vegetable life. While the practical limits of that law is found in the increased utility of those things that vary. The law does not exist in theology, or mental and moral philsophy, chemistry or mathematics.

Another such error is found in the stress laid upon the effects of environment to produce change in existing things. But no living thing has endured such change in environment as man, from plenty to want, from heat to cold, and from bondage to liberty, but he was still a man, no essential part lost or new faculty gained.

If now we attempt to expound this record of creations in Genesis by the help of these natural sciences so written, which treat of the same themes.

There appears to be an irreconcilable difference. And because of this difference certain classes of men are calling this inspired record a myth. The errors however are not in the words of God but in these imperfections found in scientific books, written from the wrong stand point, or written too hastily.

We feel assured, that when works on natural science are freed from all errors, then the harmony that will exist between them and the record of creations found in the first chapter of Genesis will be complete in all respects.

We feel assured also that a true exposition of the account of creation must be written from the standpoint of creations. And so also a work on natural theology must be written from the same standpoint.

Moreover, the natural sciences, being treaties on these several creations, to be true to nature, must also be written from the standpoint of creations, not from that of evolutions as some demand.

PRELIMINARY STATEMENTS.

CHAPTER I.

Every artist has a place where he produces his varied works of genius; so the infinite God has a place where he wrought, set in orderly array, the products of his handy-work, of which place we may note three things. First, its expansiveness. Take an imaginary line that will reach from the most distant star visible in the east to the most distant star visible in the west. With it begin to measure this expanse from any given point. We cannot by repeating that line reach the confines, the boundary line. Start in the opposite direction and the same is true. Sink that line into the depths beneath our feet, and the same is true. Lift it above our heads and repeat its lengths forever. There is no boundary discoverable. The expanse cannot be measured by any line. It is infinite. Second, its primitive condition. There was in it neither sun, moon, or stars, to light and adorn it. In it there were none of the phenomena that accompany material things, as clouds, the flash of the aurora, attractions, and repulsions, winds, flying meteors, cometic matter, fire-mist, chaos, or nebulae, of which some have supposed worlds were framed. There was not even one mote of dust to be found in infinite space. It was empty. Third, there was in infinite space none of the conditions that govern material things, as height, depth, length, breadth, latitude, or longitude, not one of the so-called laws of nature. Out of the infinite series of possibilities, as to numbers and designs, that might be formed, not one had as yet been ordained, created, because matter over which these laws and conditions hold sway had not been called into being. The only existing things were spirit, infinity, eternity.

These several suppositions, and affirmations are in harmony with God's word. Christ says, John 17, 5: "He was with the Father before the world was." John says 1, 3, speaking of the Word: "All things were made by him and without him was not any thing made that was made." There was a time when these

existing worlds were not. The Apostle says, Heb. 11, 3: "Things which are seen were not made of things which do appear." There were no other forms of matter older than these we see, out of which these elements and worlds were made. Genesis, 1, 1, says: "In the beginning God created the heavens and the earth." This affirmation seems to imply that this creative act was the very beginning of material things.

These several suppositions, and affirmations, are in keeping also with reason, which demands a competent designer for every thing that exists, because of the wisdom, plan, purpose, manifest in all material things. They were made, put together by a wise master builder, every least part of matter, or law, fits its appointed place perfectly.

These several suppositions, and affimations are in keeping with the facts in nature. This field of infinite space was, and continues to be God's work shop.

The first sentence of revelation is the record of the first creation of material things that had an existence in it. After this there were the elements of defined space. There were heights and depts, lengths and breadths, latitude and longitude, metes and bounds, weights and measures, time and ternity, and laws that govern material things. After this "Beginning" of material things, one could construct a geography of the heavens, mark the boundaries of its vast areas, name the elements that compose its worlds, and investigate the laws that govern material things. The creative record tells how, and designates the relative times when God filled his place of abode with the things we discover to be in it.

A natural theology has to do with all that is found in infinite space, for it shows that they exist by design and show forth the purposes of their author.

DID GOD USE SECONDARY CAUSES IN THE EVENTS AND TIMES OF CREATION.—FURTHER PRELIMINARY STATEMENTS.

CHAPTER II.

Did God use tools in his work shop? Yes, all secondary causes are such tools, and are exceedingly numerous, embracing, no doubt, all the laws of nature, each as a secondary cause leaving its impress somewhere in the material universe. The waters of the earth are such a cause, which have as a mechanical force produced the greater part of the sedimentary rocks, river cannons, hills and valleys, and the glaciation of continents. A combination of such secondary causes produced the coal deposits. Another series of causes gives the world its climates and its seasons. Another series directs the motions of the heavenly bodies. Another series determines the chemical affinities of matter. Another series is seen in the vital forces found in the world. Another is seen in the intellectual powers of man. Everywhere, indeed, secondary causes are at work changing the face of nature, and to some extent by environment, the character of some existing things. Indeed all the machinery of the heavens, and the earth, seem to be moved by secondary causes, the laws of nature. It is evident that God uses tools in his work shop, with which he constructs, and carries forward an incalculable number of affairs.

Second. The things enumerated in the first chapter of Genesis were not the work of secondary causes. There are no secondary causes great enough or wise enough to produce any of them. They are so comprehensive, some of them so far reaching, so interlaced, at innumerable points, so diverse, yet framed together with such perfect harmony, that God only, who is greater than all material things could have called them into being. They must be a series of creations. There is no other adequate way to explain the existence of the immeasurable wisdom manifest in their structure. Each is a new departure. He declares them to be creations. He affirms them to be the production of things where nothing was. The first acts in utilizing the domains of infinite space. To emphasize the declaration that he created

all the things there enumerated, he itemizes them, and affirms separate, and individual creation, no less than twenty-two times. In creations the record seems to teach, that God first designed, and then commanded each separate thing, with its laws, in obedience to which it was to exist, to be, and immediately it appeared in the place appointed for it and began its round of duties perfectly adapted to its place, whether it was a world, an element, a seed, or a living creature. Other portions of scripture affirm these same things, Psalm 33, 9 says: "He spake and it was done, he commanded and it stood fast." 33, 6:—"By the word of the Jehovah were the heavens made, and all the host of them by the breath of his mouth." Ps. 148, 5: "Let them praise the name of the Jehovah, for he commanded, and they were created." It is either implied, or affirmed, that each separate thing enumerated in the six days of creation was called into being by a command. The passage in Heb. 11-3, contains the specifications that there was no form of matter in the infinitude of space, prior to the creations record in Gen. 1-1, and that the creations then made were called into being by the word of God. God did not use tools, or agencies, or helps of any kind. in the act of creating. His command was sufficient.

THE TOOLS OF THE WORKSHOP.

Third. Quite an extended series of scripture texts, of very great interest, in their bearing on this question of creations is found in the records of the miracles of the Bible, both of the Old and the New Testament. These miracles, consist largely in manifestations above the power of natural laws, as, turning water into wine, increasing the few loaves and fishes to feed thousands, raising the dead, restoring the withered arm, increasing the widow's oil, causing the ax to swim, dividing the waters of the Red Sea, and the Jordan, the plagues upon Egypt, feeding the millions of Israel on mana provided daily for forty years, smiting the rock in the desert for water, they were wrought by commands or their equivalents, and the results followed "immediately," or without delay. And in these respects they serve to illustrate the greater miracles of the creative days of Genesis.

THE CREATION OF MATTER.

CHAPTER III.

"In the beginning God created the heavens and the earth." Gen. 1-1.

The apostle teaches, that this creation was real, and that before it infinite space was empty. Heb. 11-3. Other scriptures affirm that space has been filled with material forms, and their laws by the separate, and distinct commands of God. Gen. 1, 1-3-6-9-11-14-16-20-24-26; Ps. 33, 6-9; 148, 5; 2 Pet. 3, 5. And the Bible as a whole, assumes the doctrine of creation to be true, and thus sustains the affirmation of this first sentence of revelation. (See Cruden's concordence, create). This first verse affirms the creation of the elements of matter, and their orderly arrangement in systems of worlds, "The heavens and the earth." These premises suggest this question. Do the elements of matter, by their several constitutions prove necessary creations? We infer they do because of the orderly arrangement that is everywhere apparent in the material universe, and thus show that intelligence is older than matter.

This orderly arrangement of these elements appears, in the fact that each element is so made as to possess a constitution, distinct, and separate from all the others, as to density, hardness, specific gravity, chemical affinity, elasticity, compressibility, ductility, fusion point, freezing point, etc. Thus each element is governed by special and peculiar laws, which belong to it alone. This orderly constitution argues design, plan, purpose that existed in the mind of their author before they came into being, and one element was made by creation to differ from another. The difference cannot well be acounted for otherwise than as the choice of an intelligent and wise author.

The orderly arrangement of these elements of matter, appears from the tenacity with which each element maintains its individual identity. It has never been shown that one of these elements can be transmuted into another, or into some new form of matter, which proves the truth of the apostle's statement when he says: "Things which are seen were not made of things which do appear." And at the same time controverts the speculation that these elements and their laws were evolved by some

occult process, out of other forms of matter and their laws. If these elements that now exist, ever had any tendency toward transmutation nature has made no record of it in the oldest mineral compounds found in the crust of the earth. The orderly arrangement of these element composing the world appears in the intense and selected affinities that exist among them, which is by certain fixed and unchanging proportions that form them into a vast series of compounds, as shown by the sciences of mineralogy, geology and chemistry. It is evident that this affinity was prearranged and then the plan was wrought into the elements. God's mind must have placed them and then God's hand must have made them.

This necessity of creation is intensified, when we note the minutiae that is wrought into the plan of each element, when it was called into being. The combinations are all by certain fixed proportions of atoms, which though the very least parts of elemental things, are yet taken up by weight in the combinations that are being made. All the water of the world has been produced in obedience to one formula H_2O. All the salt of the world by another formula of atoms Na,Cl. Each form of vegetable tissue is built of selected atoms, and by a given formula. One formula produces a narcotic, another strychnin, another starch, sugar, oil, vegetable fiber, perfume, pigment, or wood. All these limitations go to show that these elements were so planed, and then constructed, by the author of their being, so as to fill the places they now occupy in the economy of nature. Even the weight of their several atoms, and the number and character of the combinations, they may make, were all predetermined. These things show the completeness of the design, and prove the necessity of their creation, by the one who established all the possibilities of the several elements of matter composing the world.

Fourth. The orderly arrangement of these elements appears in their utility, whether we consider them singly, or in their combinations. They conspire to add value to the world as shown by its subsequent history. Their value is, in every sense, cumulative. Each new compound serves some good end, in the economy of the world. Each new use of an element gives a new power, and adds a new value to existing things. Perhaps it is also true that thorwing an element out of use makes the

world a per cent. poorer. The combinations of these elements make all of the rocks and minerals of the world. They form the basis for all the arts, and sciences, trades, and occupations of men. The evidence of design in the structure of matter is so strong that it cannot be denied, and yet this evidence is intensified, when we consider that these elements of matter antedate, in their birth, the six days of creation, which bring out in relief the plan, and purpose, that was embodied in their complicated structure. Such far reaching designs, compel the belief that these elements of matter were called into being for the end we now see them fulfilling. While the wisdom and power, manifest in their being, point irresistably to the Infinite and Eternal God as their author. God only alwise could be their architect, and alpowerful could be their builder and maker. He must have selected, and numbered these elements, and measured the quantity of each, and ordained the laws of their being, that determined their relations to each other, and to forms of being that were yet to be created.

Fifth. The orderly arrangement of these elements appears in the fact that each element of matter has a field of utility and of combinations wholly to itself, as the sulphides, the chlorides, the oxydes, the carbonates, the silicates. Each mineral or gaseous element makes its own series of useful compounds, with other elements. Some of these compounds are pigments of color for the artist or dyer. Some are noted for their medicinal qualities. Some are solvents as sulphuric or nitric acid. Some are foods for man and beast, as grains, grasses, and fruits. Some are poisons. Some quench thirst. Some are sources of power that move machinery. In all of these combinations there is apparently no evidence of a struggle for existence, and of the survival of the fitest. The field for each is so large that there is no crowding or strife. The laws for each element and its compounds were selected in incomparable wisdom, and gifted with irresistable power over the things they were to rule. This selection was made in the beginning, for the compounds of all the elements that exist in the foundations of the world, may apparently be now made in the laboratory of the chemist. All of the elements and all of the laws of each have survived from the beginning to the present day.

THE EARLIEST HISTORY OF ONE WORLD.

CHAPTER IV.

"And the earth was without form, and empty, and darkness was upon the face of the deep, and the spirit of God moved upon the face of the waters." Gen. 1, 2.

This brief chapter of history, for such we assume it to be, stands alone in the records of the world. And since it makes a part of the creative record, we should infer it to be as important in the mind of its author as the other portions of the more extended history of the events of the creative week. This importance is enhanced when we note that it treats of things entirely distinct from all else in the first chapter of Genesis. It was doubtless designed to be in antithesis with the works of the creative days. For it says that the earth was now empty, dark, formless, covered with waters and without living creatures. Its only inhabitant the Spirit of God. As the creations of the days advanced it was lighted, beautified with floating clouds, lands and seas, that were filled with life. And the heavens were made bright with stars and sunshine. The contrasted thoughts are very emphatic. There are in this brief account of the earth no less than six distinct affirmations concerning the condition of the world during that period of its history. Five of these points have always been open to investigation by the students of nature. And they can today, perhaps, more readily than at any previous period of man's occupancy of the world, be carefully examined as to their truth. They have been spread out before the world as if to challenge investigation. These affirmations are as follows:

1. The earth was a world of matter of known elements. It was not a chaos, or in a diffused and nebulous state.

2. It was an empty world. No form of life was found in it. Jer. 4, 23-26.

3. It was in darkness.

4. It was a formless world. Without land, hill, valley, sea, lake, river, atmosphere or clouds.

5. It was covered with waters.

6. The Spirit of God was alone in the world its only inhabitant. Let us review these points in their order—

1. When this chapter of history opens, the elements of matter composing this earth had already ceased to exist in their simple form. Hydrogen and oxygen had formed a chemical union, and the resulting waters covered the earth. Other elements had combined and made the rocks for the floor of that universal ocean, and made the material for the molten interior of the world. For if the oxygen that is estimated to form about one-half of the world had at this time already united with the hydrogen and made one of the chief elemental compounds of the world, it had by parity of reasoning also combined with other elements as silicon, and potassium, and aluminum, that make the granite foundation of the earth's crust, and also the floor of this ocean that then covered the world, according to this inspired account. At the time referred to by this second verse of Genesis the earth was not in any part of it a chaos of elements, as some suppose, but a systematic series of compounds as complete as those found in the laboratory of the chemist. This one verse is God's chosen way of telling us that the earth was, from "the beginning," composed of the elements now found in it. And demonstrating before us that these elements by virtue of their specific gravities, their chemical affinities, and their indestructability, could exist only as a world mass. The purpose of God is indicated by the compounding, not by the diffusion of these elements of matter.

2. This historic record says, the earth was an empty world. It had no living thing in it. It was like a house unused. The question immediately comes up. Is this true? Can we find in the earth the clear record of such a time? There is no scientific truth more thoroughly established than this, that the earth at a certain period of its existence was empty. There was no form or species of living thing, plant or animal upon it, or in its waters. It is also equally well established, that that period of emptiness was in the earlier period of the earth's existence, and therefore in that respect coincides with this historic record which speaks of the earth as it was next after its creation, and as it was just before the beginning of the six days of creation. This coincidence gives presumable evidence at least that the inspired record, and this geologic period of earth age do actually refer to the same period of time. As illustrating this historic coincidence we may note that the science of geology was not

studied, and written in order to expound scripture, but to some extent with a spirit of antagonism to it, and therefore its testimony is the more valuable, if in the end it confirms the historic truthfulness of the inspired record. The science of geology is modern in its origin, and though young in years it seems, in the main, to be established on a sure foundation of truth, for it has been studied, with care, in many lands for a century, or more, and its principles and philosophy as a science carefully arranged by the most learned of men in that department of literary work. While many of the investigations that have extended our knowledge of the science have been carried on by states, and nations at great expense, and by every assistance obtainable for the purpose of learning the character, value and location of the mineral wealth hid in the earth. Also learned men have for the sake of the science itself by a slow and persistent process of investigation examined the superposition of the various stratified rocks in many parts of the world, collecting the fossils of plants and animals found in the successive deposits, and thus have noted the progressive history of the world, from the most ancient sedimentary rocks up through all their formations to the modern sands of our brooks and rivers. To help themselves in this study they have given names to the various series of rocks discovered from the last of the tertiary to the oldest of the silurean. These most ancient fossiliferous rocks by whatever name they may be called, whereever discovered in any part of the world are found to rest upon azoic rocks. Now when these azoic rocks were formed the world was empty, void of any kind of life. Investigations in every part of the world bring the same testimony. There was a time when the whole earth was empty. It was "vohu." This is God's declaration concerning it. He says, "The earth was void, empty, 'vohu.'" This declaration that God made concerning it was not mythical but true history. To give emphasis to this inspired declaration we may note, that this azoic rock appears at the surface over a large part of the earth. It is therefore before the eyes of the whole world bearing testimony to the truth of this scripture record, which becomes one of the most wonderful declarations in (revealed history) because made so many ages before men by investigations had discovered that the earth had in its earlier history an azoic age. It is not prob-

able that this truth was known at any time previous to this in the world. If so, other points in the science of geology would also have been known and some of them, at least, would have found their way into the ancient literature of the world and been preserved. Nothing of the kind appears however. The writer of this historic and scientific statement must therefore have been inspired of God to record events known only to God. The world of mankind have waited thousands of years before investigations in the science of geology had made clear that this declaration was true, both as science, and also as history. This scripture is the instrument of bringing out in relief one of the wonders of inspiration. When this sentence was written man could not have composed it. It stands therefore as an illustration of a revelation from God, which was not understood even by those to whom it first came as a revelation from God. If the author of Genesis understood the full scientific import of the record of creation, he has left us no intimation of it. And even now some of the most learned of men, are calling the whole chapter of Genesis in which this second verse is found a myth. This verse of scripture calls attention to another fact, the verbal inspiration of the Word of God. When it was written God only could select the words that would tell us the truth, the whole truth, and nothing but the truth. Because the subject matter is such that God only, who knew all the events, could declare them.

3. This history affirms that this world was at that time in darkness. "Darkness was upon the face of the deep," and the deep covered the whole earth for the dry land had not yet been made to appear. The context shows us that the reason for this darkness was that the light had not yet been created.

4. This history of the world affirms that the earth was at first formless, and by a reference to Jer. 4, 23-26, where the same word is used, we learn that this formless state signified, without land, hill, valley, sea, lake or river, and by a reference to Gen. 1, 6-7, perhaps also without an atmosphere and clouds, for they also give form to the world, and are as much a part of the earth as the land and the sea. Which the creations of the second and especially of the third day removed by the appearance of land, and of sky views.

5. This inspired history of the early part of this world's existence affirms that during this period the earth was covered with waters. And causing the dry land to appear on the third day tells us how this flood of waters was removed.

6. Lastly the inspired record says: The Spirit of God moved upon the face of the waters. God had not forsaken the formless, empty, dark, ocean-swept world. He is every where watching over his affairs.

These six points of world history that God has been pleased to give us are each of incalculable magnitude. It is to be noted however, that there is among them no intimation of creations. Nor are they evolutions. They are an enumeration of physical conditions with one exception, the Spirit brodding, and that is a declaration of Divine care and supervision. The other five points give us in brief the physical geography of the world, at that time, and though brief they comprehend everything. The whole physical state of that one world is given to us in the fewest words possible. As an important historic record it stands in its proper chronological place, between the account of the origin of material things and the events of the creative week, which treats of the events by which this and also other worlds were prepared for more extended usefulness, and how some of them were employed. The earth is clothed with vegetation and filled with living creatures. And the sun, moon and stars, are made light bearers, and mark the times and seasons.

THE CREATIONS OF LIGHT AND DARKNESS.

CHAPTER V.

And God said, "Let there be light"—and God divided the light from the darkness. And God called the light, day, and the darkness he called night. Gen. 1, 2-5.

Can these creations be now selected from the midst of existing things, and their boundary lines be pointed out First light is a small part found in the midst of an existing order of things called "Radiation." Light is that part of radiations perceived by the eye, and which when separated from other radiations by a prism forms what is called the solar spectrum, which is composed of a series of colored rays from red to violet, and which when combined forms white light. Below the red in the spectrum are dark rays, and beyond the violet on the other hand there is a series of dark rays. The boundary line between light and dark is at these two points. Among these factors of radiation, light is the most apparent, and first known, and evidently the part stands for the whole. For all these rays belong to one order of existing things, and when God said, "Let there be light" it was the command which of necessity called into being all the laws of radiation, for the light and the darkness are represented as co-ordinate creations, though they are separated by unchanging laws.

2. We may note the magnitude of this creation. It was for all space. We can easily go where light is not, but we cannot go where its laws and with it the laws of radiation are not. While the speed of its motion would indicate that it was not made for this world alone, but also for infinite space as well, for it moves 187,000 miles a second and is adapted to be the servant of worlds. And though it comes to us from the depths of space so great that thousands of light years have elapsed since it started on its journey, yet knows the laws of light that exist about this earth when it arrives. Therefore it is apparent that all the laws of light are the same, both in that far off domain, and here in our own home circle, the solar system. And they were the same in that far away time they are now. The laws of light and darkness were evidently not for this earth alone but for all worlds.

When God said, "Let there be light," and at his command it came to this earth, the way was at that same moment prepared for light to come and minister to all worlds. And that which is said about the existence and motion and magnitude of the light rays is true also of the dark rays, for they apparently move through space by one law and one impulse.

By a second act of creation, the inspired record says:

"God divided the light from the darkness." This boundary line between the light, and the darkness is clearly defined and well known. For practical purposes the eye serves to define it. The rays we see are in the field of light, and designate its limits. There are other rays interspersed with these that are seen which exist at every possible temperature that cannot be perceived by the nerve of vision. The question may be illustrated in this way. Let a thread or ray of light fall into a darkened room, pass this ray of light through a prism. It will be divided into a spectrum. A part of the rays found in that ray of sun light will be refracted to a place in the spectrum below the red and be invisible. A part will be in the spectrum and be visible. A part will be found beyond the violet of the spectrum, and be invisible. The experiment shows the boundary lines that divides the light from the darkness. To determine the number of the radiations that should be the instruments of vision was a Divine prerogative. He evidently made the selection, and divided the one series from the other. So important was this selection that it is spoken of as an act of creation. "God divided the light from the darkness." And in evidence that this division, between the light, and the darkness of the first day's creation, is the true one, we cite the fact that the eyes of all creatures made on the subsequent days of creation were constructed to see by these same radiations, bounded by the solar spectrum. And practically all the forms of vegetation subsequently created were made susceptible to the influence of these same radiations. And without them all forms of life make defective growth or perish altogether.

Third. Let us now gather some of the proofs that light with its laws must have been a creation. (a), God says it was a creation. (b), The days of the creative record are along natural lines. And since the things enumerated in the six days do, added to the creations of "the beginning," by a comprehensive

interpretation embrace all that the eye of man can see or his reason show to have existed or now exist in the material universe, cognisant to us, and since this first day enumerates one factor, and a very important one too, of the all things, therefore this factor of radiation with its laws, must of necessity be a creation also. (c), That radiation is one among the several distinct creative acts that have been performed by the hand, or the will, of the Infinite God appears from the fact that its laws are distinct and separate from the laws of all other existing things. Both of things that precede and also succeed it in the creative record. The laws of chemistry, astronomy, electricty, meterology, geology, botany, zoology, and solar physics are all severally as complete in themselves as are the laws of radiation in itself. And each is distinct and different from all the others, and from the laws of radiation. These different orders of things must of necessity have been separate and distinct creations for each is the beginning of a new order of things. And each is so essentially different from all the others that one could not be descended from another by any known law of generation. (d), The relative place of radiation or light, among the creative days emphasises the importance of its creation, and to that extend of emphasis, intensifies the necessity of its creation. And that the point of place and order in the record is well taken appears from the fact that each subsequent creation as enumerated is at some essential point dependent upon or affected materially and essentially by this, and thus they unite to prove its primal origin. For the creations of the other days could not exist without light or in some cases without heat, in fine without radiation. Take away heat rays and all earthly life perishes. Take way light rays and all eye nerves perish, and one important sense in animal life ceases to be. Take away light and all color fades from vegetable life. Take away heat and the seasons cease to be, and vapors to rise, and rivers to flow. But by its help the earth is clothed with vegetation, the forests, fields, and waters are filled with life, and the seasons glorify the year. While this wheel is different from every other wheel in the machinery of the universe, it is also the first in time and importance among the six creative days. This priority and their dependence prove it to be a separate and distinct creation. (e), That radiation with light was a creation, as the record declares may appear from the fact

that it shows in its relations to other things or departments of creation the most complicated and far reaching designs. For nowhere is there found the evidence of antagonisms, but everywhere perfect adaptations of living organisms to the laws of radiation previously ordained with the strongest possible evidence of dependence. These conditions indicate design and intelligence infinitely above and before all material things. The whole plan of the infinite universe must have been in the mind of the author of light when he called into being the laws and matter of radiation, with its new and unheard of composition, actimic power, marvelous activity, imponderable nature, with its power to carry heat through interstellar cold, and light through interstellar darkness, apparently without loss of either. An agency in the midst of material things entirely distinct and separate from everything, either preceding or succeeding it in the economy of nature, antagonising none of them but helping everything to utility, and in the sentient world, to prosperity and to happiness. Such a creation must exist by design, and by the designer that plans and arranges things for the infinitude of space, who is the infinite and eternal God. (f), That light and the laws of radiation could not be evolved from the material universe may appear from the following contrasted laws of existence. Matter moves in orbits and curves. Is subject to attractions and repulsions. Is made of ponderable elements. Moves through space slowly with very great momentum. Is gathered in systems of worlds. Light moves only in straight lines. Is not subject to either attractions or repulsions. Is imponderable. Moves through space with the highest known speed, but without momentum. Each ray starts out into infinite space untrameled by the laws that govern matter, such as chemical affinities, molecular attraction or gravitation, or orbital motion. Millions of radiations are crossing each other's path at every conceivable point of space. If radiation was evolved from matter, the child shows no kinship to the parent. For all of its laws are different from the laws of matter. To fill infinite space with a new order of existence can be accounted for only by a creation. However we may arrange and combine matter it is still finite in quantity, and also without a mind, while radiation is a universal, and has every evidence of an intelligent and designing author. For the laws of radiation are mathematically perfect. And so also are

the laws of chemistry and astronomy that govern the worlds, but each by a different formula and numercial value. And the complicated character of the formula for the location and structure of the heavens, and then for radiation prove each to have been a separate creation by one able to arrange these diverse, and stupendous affairs of the universe. (g), There are those who seem to think that light with its laws was a part of the creation of "the beginning." But God in His Word separates them, and light is declared to be a separate creation the work of the first day. (h), The provision by which all radiations are possible, and without which none of them could exist, demands a creator who could construct things the most diverse, as matter and its laws, and radiation and its laws, and set them up together, and fill infinite space with one, and then again with the other and cause them to exist together forever, not only without antagonism, but as helpers in the vast and complicated structure of material things found in infinite space. (i), Light with its laws was a creation, that came from the hand of its author perfect as it is today, because there is nowhere in nature an evidence of its change in structure or constitution, indicating that it underwent improvements at any time, as if by a process of development, for the creatures and plants that have lived in geologic time extending from the earliest to the latest sedimentary rocks seem to show that the light and the heat they enjoyed were essentially the same throughout the whole of that vast age. They were the same in composition and actinic power that they are now. The laws of radiation are stored in the coal we burn. The knowledge we have already acquired on the work of this creative day is sumed up in work on optics, spectrum analysis, photography, radiation, heat as a mode of motion, and solar physics. There are some who seem to think that this Bible record of a creation is not historically true or scientifically correct. But these works on radiation of unquestioned authority bear testimony to both the scientific and historic truthfulness of this creation of the first day. (j), There are some who say the first and fourth days of creation are virtually one. We may however note some points of difference. The creation of the first day is a universal, and makes provision for all finite and limited uses that may occur under it, for the lamp light in the house, the arc light on the street, the radiant heat that warms our houses, the sun

light, and sun heat that warm and light a system of worlds, and the star light and heat which it is believed serve many other similar systems of worlds. All of these are dependent on the creation of this first day for their utility and without it they could not exist as now constituted. And by their constitution they show forth the infinite power and goodness of Almighty God.

THE CREATION OF THE ATMOSPHERE.

CHAPTER VI.

"And God said, Let there be a firmament in the midst of the waters, and let it divide the waters from the waters. And God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament." Gen. 1, 6-7.

According to the inspired record the object of this creation of a firmament was to divide the waters of the earth, and send some of them aloft, and according to Gen. 2, 6, carry them about over the earth. Gen. 1, 2, says that prior to this the waters were in an ocean. "A deep." "And the Spirit of God moved upon the face of the waters." And Gen. 1, 9, implies that these waters covered the whole earth, for it says, "Let the waters under the heaven be gathered together unto one place, and let the dry land appear." "And the gathering together of the waters called he seas." And Gen. 1, 7, declares that God made, or created the firmament by which he at first "Divided the waters which were under the firmament from the waters which were above the firmament." The first and most important question that suggests itself is, What was that creation by which this division of the waters was accomplished? Dr. William Smith in his Dictionary of the Bible (art, firmament) says: "Correctly speaking the atmosphere is the true firmament by which the clouds are supported" and of course the invisible moisture is divided from the waters on the earth by this same agent. And (Keil and Delitzsch Bib. Com. page 38) say "On the second day the firmament or atmosphere was formed." There is some evidence that the division of the waters is only part of the work of this firmament. It is doubtless a true principle that all the work that that divider does it was designed to do, for not anything in God's infinite domain is there by chance. Even the sparrow whether living or dead, is cared for in his providence.

While this firmament constantly takes up, and carries about with itself a certain per cent. of moisture, it takes up from the earth also, with even more exactness, a fixed per cent. of pure oxygen, and also a fixed per cent. of carbonic acid gas. The

latter makes the one twenty-five hundredth part of the atmosphere, and the former one-fifth of the atmosphere as we breathe it. It is essential in the economy of the world as now constituted, that these three things, water, oxygen, and carbonic acid gas, be each transported over the earth in its pure state. The water as a solvent of earths and to sustain both animal and vegetable life. The oxygen to sustain animal life and all combustion. The carbonic acid gass to sustain all vegetable life. Vary the per cent. of either one of these three things that are now being transported over the earth ,and the result would be disasterous to all life. The chief use to which God has at this time devoted this world. Vary the per cent. of moisture and there would on the one hand be a second deluge, or on the other, an all destroying drouth. Vary the per cent. of oxygen and all animal life would on the one hand run mad, with a form of drunken exhileration, after the analogy of laughing gass, or on the other die of suffocation, as now constructed, which is evidently part of God's plan. Change the per cent. of carbonic acid gass, and on the one hand it would destroy animal life, if in surplus, and on the other, destroy all vegetable life if there was a deficiency. That these three things, water, oxygen, and carbonic acid gas, be transported over the world in their pure state to their several office works in the economy of nature, as now constructed demanded a divider, a firmanent, of peculiar structure. It must be permanently gaseous, and spread over the whole world evenly. It must be a neutral element, one that will not enter largely into compounds with other existing elements. It must be of sufficient volume and density to do this office work. As a servant it must have immense physical power. All these conditions are fulfilled in the element nitrogen. And practically it is the true dvider, the real "firmament," that is so constituted as to fill this place in the economy of this world. Gen. 1, 6-7, affirms that God created this firmament adding it to the world. The language implies that the material for this "firmament" did not previously exist. This divider of the elements was a new thing, a creation.

First. It would seem that when these three factors or elements, if we may for convenience so call them, were added to this divider that they at once co-worked with it, and added to its power, and now make what is known to us as the atmosphere.

Which however we have shown is dependent for its existence upon the fourth factor, the nitrogen, the creation of the second day.

Second. If the atmosphere came into being with the earth, as some seem to suppose, then this division of the waters would have existed, by natural laws just as it does now, from "the beginning." And such division could not properly have been spoken of as an additional and subsequent creation.

Third. The atmosphere now does this work. The waters, the oxygen and the carbonic acid gas are carried about over the world by it. This is evidence that it has always performed that part of the service of this world.

Fourth. The vapor of water will not stand alone, according to the terms of this record dividing the waters from the waters, because it is reduced to the liquid form by so slight a change in temperature, and then the force of gravity precipitates it to the earth as rain. And the clouds, even now, with a lifting power to support them, the sum of which is fourteen pounds to the square inch, immediately sink toward the earth if for any reason the density of the atmosphere has changed but a little. If now the atmosphere was removed altogether the clouds would fall to the earth as readily and rapidly as a stone, after the analogy of the feather and the coin in vacuo. There are those who advocate that water in vacuo will evaporate so rapidly that it will divide itself. It is true that water will boil in a vacuum until the ice will rattle in the retort, yet the vapor produced will not stand on that ice but is immediately condensed, and the vacuum is maintained. The jet of cold water in the cylinder of the low pressure engine constantly produces the needed vacuum before the piston. That the waters might be divided demanded the creation of an agent that would take up as much of the vapor of water as was needed for the use of the world, and carry it at every temperature even to the polar regions, or the highest mountains.

Fifth. There is no evidence that this division of the waters was ever at anytime brought about by any other agency, than the atmosphere. Therefore it was the creation of the second day. It answers perfectly to the conditions of this inspired record.

Sixth. An atmosphere is not a necessary attendant of worlds. The moon does not have an atmosphere. Perhaps the same is true of other secondary planets, and also of same of the primary planets, as Mars. While some of the major planets have an atmosphere differently compounded from that of our earth, as Uranus and Neptune, which in each is composed principally of carbonic acid gas (Schellen Spec. Anal. pp. 333-337). And the outer atmosphere of the sun is an unknown element and the next within it is principally of hydrogen, and of vast extent and volume, and in flaming heat. Though the sun itself is composed of the same element as our earth (Spec. Anal). Therefore it is evident there is no natural law by which the various members of the solar system have been furnished in this respect of an atmosphere. Hence the necessary inference is that, this part of the furniture of the several worlds is in each case a separate creation from that of "the beginning," at least if God should so declare it, as he has done in regard to this earth.

Seventh. This reasoning, that the creation of the second day was the formation of a neutral element is confirmed by the fact, that the earth is composed of elements that have such an intense chemical infinity for each other, that if the atmosphere now existing were removed there would not apparently be material in the world for another atmosphere similarly composed, or for an atmosphere of equal volume of any kind. For the remaining elements that are gaseous will not stand alone in contact with each other, or with the majority of the mineral elements, and when compounded they make solids or liquids. Therefore when God says he created a divider of the elements, he as much as declares it was the creation of the nitrogen which is now filling that office.

2. This "firmament" was not only a divider of several of the elements for certain ends, but it also served other purposes in the economy of nature that were equally works of the design that demanded its creation. For instance it receives and stores for a time a part of the radiant heat of the sun, and transports it over the earth. It thus serves the world as a garment shutting out interstellar cold and equalizing the temperature of the day and the night, and of the winter and the summer in part by supported cloud work. Also by the laws of refraction and re-

flection it carries the light through the shadows, and gives the twilight, lengthens the day and carries the light of the sun into our places of abode. Because of its mobility and elasticity it becomes a motive power and yet does not impede the activities of the world. The laws of the atmosphere determine its relations to sound and limit the laws of music and of speech, and of hearing. They determine its relations to electricity, storms, tornadoes, and its various movements over the earth. They determine the fall of the rain, snow, hail and dew. All these varied laws that establish its peculiar characteristics in the midst of the creations where it holds its place, were as much creations as the elements that enter into its composition. And they indicate the choice and design and incomparable wisdom of its author. Though in claiming that authorship God speaks only of the dividing of the waters, yet that claim of necessity embraces all these laws that characterise the atmosphere.

3. There are those who seem to think that the atmosphere in its earlier history was different from what it is now, in composition, specific gravity, and office work in nature. This is a speculation that leans on the theory of evolution, but the delicacy of its structure, the perfect finish of all its parts, and its adaptation to all the ends it serves in the midst of the creations would indicate that it came from the hand of God perfect in all its appointments, and laws of being, just as we know it today. In creation God added the product of one perfected thought to another until the whole structure of the universe was finished. In creation, like in the building of the temple, every part was a finished thought before it was laid in the structure. In the problem of creation, at each step, God affirms he made something where nothing was. His infinite wisdom precludes the idea of His placing an imperfect part or thought in the midst of his building. It would mar the stability of the whole structure.

4. We may also note, a point or two concerning the relative amount of work that is being done today by this divider of the waters. The earth of all the continents is constantly being saturated. The rocks are filled with water. Wherever they are pierced with the drill water is found. All springs and

fountains receive a perpetual supply. The lakes of the world are kept full, and most of them overflowing. Though it takes the River Jordan to supply the annual evaporation from the Dead Sea. From the Great Lakes of America, the Niagara River is constantly poured forth. The waste of all the glaciers is supplied. The daily supply of dew and rain, snow and hail, for all the world do not exhaust the supply that is being constantly carried about over the earth. And the actual surplus of this abundance is measured by the discharge, of all the springs and brooks and rivers, into the seas. While the rain fall, over about three-fourths of the earth, is back into the sea whence it came.

All of which shows the measure of the liberality and goodness of the Almighty God in his dealings with the world.

THE CREATION OF THE CONTINENTS.

CHAPTER VII.

"And God said, 'Let the waters under the heaven be gathered together into one place, and let the dry land appear,' and it was so." Gen. 1, 9.

1. Let us note the state of the earth preceding this event. "It was covered with water," Gen. 1, 2. "The waters had not yet been gathered into seas nor had the dry land appeared," Gen. 1, 1. The testimony of nature agrees with these statements. A number of things indicate that the earth in its earliest history was in a molten state. Its spheroid shape is such as its axial rotation would give it, if in a plastic state. The elements composing the earth if brought together in their pure state are so constituted in their relations to each other that they would at once unite in chemical combinations with intense heat and fusion, so that the whole world would be molten. The oldest rock was, it is believed, of ignious origin, and was in its earliest stage in a state of fusion.

The interior of the world is now in a fused state, for volcanoes in all parts of the world are throwing out lava, that is similar in its general constitution showing that these volcanoes tap one common fountain or reservoir. Also as we descend into the earth in mines and artesian wells the heat increases at a regular ratio and this increase is found in all parts of the world, and is such as to reach the fusion point at the depth of a few miles, which would indicate that the whole interior of the earth was now in a state of fusion. The materials of the earth in their superpositions indicate that the different parts were free to move among themselves in the formation of the earth. The lighter factors are on the surface in harmony with the law of specific gravities.

These scriptures, and specifications of nature would indicate that the rock bound crust of the earth was at first a level expanse from pole to pole, and was covered by a universal ocean several miles in depth.

They would also indicate that the molten rock material found in the interior of the earth was at its last possible dimen-

sion, and that as it cooled into rock it expanded after the analogy of water when changing into ice, for the specific gravity of granite, and all allied rocks is about one-half of that of the molten interior of the earth. And they rest on it.

As a corollary drawn from these premises, the earth has been expanding by a very small per cent. as that molten rock material gave up its heat. It has not been shrinking as some have supposed.

2. The crust of the earth has always been stretched like an inflated ball by pressure from within, by the expanding rock material. And would have remained forever by natural law a level expanse, the floor of the ocean, had not God commanded the dry land to appear, which was an act above natural law.

Seemingly the mountains were subsequently formed by this pressure from within the earth but in harmony with material law.

2. In what did this creation consist? The inspired record does not tell us. It gives us the commands only that God uttered: "Let the waters under the heaven be gathered together unto one place, and let the dry land appear." And it was so. It tells us that these commands were sufficient. "It was so." Perhaps the creations themselves tell us what was accomplished by those commands, in the crust of the earth. The language shows that gathering the waters unto one place, and causing the dry land to appear had distinctions enough to mention them separately. It would indicate that it required as much of a creation to prepare a place for the waters as to cause the dry land to appear. Recurring then to the question at the head of this section. In what did this creation of the continents consist?

First. It would seem to have been the rending of this horizontal earth crust that now made the floor of the universal ocean, along the proposed shore line of the several continental, and sometimes island areas. And then, second, elevating, against the force of gravity, such portions as were selected for continents to near one level, in all parts of the world. Elevating these areas so as to cause what the geologists deminute, "a fault" in the rocks of the earth crust along this whole shore line, while those parts of the earth's crust that still remained as the floor of the oceans were left unmoved, or in areas equal to the

continents were made in like manner to sink an equal amount. So that the molten interior of the earth was adjusted to the changes wrought. The first thing that attracts our attention is the magnitude of this creative act. The rending of the earth's crust that extended to every degree of both latitude and longitude. Along the actual shore line of every continent, and also island not of volcanic origin. A line of fracture a hundred thousand miles in length, all told, perhaps more. And then, the elevation of these continental areas to the height of about two miles by measurement. These continental areas, amounting to one-fourth of the earth's surface, having been elevated, to about the same height in all parts of the world, were keyed in place, and, made permanent structures so strangely braced in their mighty abutments, that though subsequently loaded with mountains miles in height, and of vast areas, and in addition, sometimes loaded with glaciers of equal or greater altitude, and of far greater area. Yet these continental arches were not pressed back by the force of gravity beneath the ocean's level. The structures were sufficiently strong for all emergencies. While one of the strongest forces in nature the attraction of gravitation was overcome in that elevation. Therefore it was the work of One still greater, who created. That this appearance of the dry land was of necessity a creation, not an evolution by the help of natural law, but a work above natural law, we may note:

First. The continents were lifted with abrupt and perpendicular walls, from the level floor of the universal ocean. In the act the floor of the oceans was not curved or bent, and the surface of the continents retained the same level expanse that belonged to them as parts of the ocean's floor. The floor of the Atlantic Ocean is now a level expanse from America to Europe, and Africa, about three thousand miles wide, and about two miles below the surface of the waters, and the shore line of the continents. The same is true of the Pacific Ocean with the exceptions noted above of areas of greater depression. Deep sea soundings by the Challenger in 1870, and other like expeditions, along with hydrographic coast surveys have established the following general principles. That the coast lines of the continents are very clearly, and strongly marked by abrupt walls. There is about the continents a narrow border, of varying

width of shallow seas which is counted by geographers, and allowed by the laws of nations to belong to the continents. The waters gradually deepening are presently a hundred fathoms. Here by consent the continents end, and the deep sea begins, for near this line the walls of the continents, and of the channels of the seas decend by a rapid incline of four hundred to five hundred feet to the mile, down to the floor of the oceans that are from two to five miles, and in some places even greater depth below the water line of the continents, while the floor of the oceans is found to consist mainly of vast, and level plains of thousands of miles in extent. And the general structure of the continents before the mountains were formed coincides with the present floor of the oceans. They were at first vast level areas from shore to shore, on which perhaps by glacial and other agencies the materials of parts of the sedimentary rocks were formed or manufactured. The materials for mountain ranges and areas were in many cases not pushed up through from below until after the carboniferous age and in some cases until after the tertiary rocks were formed, for fragments of these systems of rocks lay on the tops and sides of mountain ranges at every incline. They were when formed evidently thousands of feet below their present positions on the level plane of the earth.

Now these abrupt walls about all continents, and the uniform and comparatively level floor of all oceans, and also similar uniformity and level expanse of all continents for incalculable ages after their appearance, show evidently that the appearance of the dry land, and the formation of channels and reservoirs for the oceans was not the result of curvatures of the earth's crust by natural laws, as some have held. No known law of curvatures of such a mass of rocks as existed in the earth's crust would have produced a series of such abrupt curves, leaving all the rest of the earth's crust, both on the continents, and on the floors of the oceans comparatively level areas. If the theory of curvatures had been true these curves, by natural laws, would have of necessity been gradual, and would have embraced the whole of the earth's crust. Such evidence is wanting. Therefore the work of causing the dry land to appear was above natural laws, every part of it was by design. It was an interposition of Divine power. It was a creation.

THE CREATION OF VEGETABLE LIFE.

CHAPTER VIII.

"And God said: Let the earth gring forth grass, the herb yielding seed, and the fruit tree yielding fruit, after his kind, whose seed is in itself upon the earth. And the earth brought forth grass and herb yielding seed after his kind, and the tree yielding fruit, whose seed was in itself after his kind. And God saw that it was good." Gen. 1, 11-12.

1. (a), This record of the origin of vegetable life shows the beginning of a new thought. The natural world attesting the fact, by showing both the beginning, and successive steps in clothing the earth with vegetation, during its succeeding ages from the appearance of the first plant and tree, down to the trees, and herbs and grasses, that now cover the earth. (b), This record of a new thought, marks a creation, or as many separate creations as there are types of that thought. The terms of the command are given, and then the fact of obedience is recorded. (c), Also the seed of each was ordained to be in itself, separate, and distinct, from every other on the earth. The individuality and identity of the various seeds was to be perpetuated from generation to generation. This also is affirmed by the testimony of nature. (d), The record also makes this declaration, that the primitive creation was of seeds, for each kind, which seeds were sown in the earth. And the declaration that each seed "Was in itself after his kind," is an affirmation that the various seeds were not kindred to each other. Each seed had an independent origin and life. There is no thought of evolution in these terms: "And afterward when the conditions were favorable they grew," Chap. 2, 5. This would require that seeds were made for zones, and for continents, and for climates, for these specialties are now maintained. The vegetation of the frigid zone does not migrate toward the tropics. And, the trees and plant life of the tropics do not adapt themselves to the frigid zones.

2. That the creation was of an individual seed for each separate species, may appear from the following reasons: (a), It is the simplest form in which the new thought can be em-

bodied. It is an established fact that all the possibilities of a given "grass, herb, tree, or cryptogram." The merus law of the future plant is in the seed. Its chemical powers, whether it shall produce, in its future growth, sugar, starch, resin, strychnine, acid, pigment of color, or woody fiber. Its longevity, whether it shall be annual, biennial, or centenarian. If classed among drugs, whether it shall be stimulant, sedative, emetic, or cathartic, in its action on the animal body. (b), That one seed or two, at the most, was planted somewhere in the earth and from that one point the world has been filled, in many cases the distribution is even yet only partial. (c), The vital laws, embodied in each seed, differ from all others. That each seed selected, ordained, and embodied the laws that should rule over it is against reason. Each seed as a work of art demanded an author, as a final cause, gifted with power that was infinite, guided by reason and personality. Even man is superior in wisdom to dead matter. But he cannot make seed germs. Hence, the elements of matter could not be the author of the mechanism and design manifest in each seed, and hence we must ascribe it unto God, who is wiser than man, and stronger than nature, and the laws that govern it.

4. Another evidence of the Divine authorship of vegetable life is the incorporation of the law of variability into the laws that govern each species. The plants that grow from any given species vary in certain respects from generation to generation. This variation seems to partake of the nature of an infinite series. The variation of some species being more rapid than in others, and over a wider range. But like every other natural law, it is limited in the shpere of its activity. For it cannot be shown that of the million of new varieties, that are produced each year a single new species has been evolved. And each generation has the same likeness. That of variability of the parent and is subject to this law of variability and its existence among the laws governing the vegetable was apparently by design, as much as any other law of the individual plant. (d), The object of the law was doubtless to increase, to the utmost, the utility of this creation. For seemingly, the list of species for the world is filled by creations. And then the element of variability fills up the narrow spaces between by slight shades of differences for beauty in flowers, and for grateful pleasure and comfort in

fruits of all kinds, to those creatures that enjoy the one and live on the other. (e), This law was a separate creation for each species, for it has not the same range, and compass for any two species, or the same degree of rapidity by which they are made. (f), The law where found is shown to be a creation, by the designed narrowness of the extreme known limits of change. (g), By the shortness of the time, in which, these changes may be attained, for improvements or regression. The seeds of one season producing some of the poorest, as well as, some of the best varieties, of each species. (h), This law of variation is a creation, for each new species, for the law for each is different, and therefore has as many forms as there are species of plants and trees in the world.

5. Another evidence of the creation of each species is found in the law of chastity, that is wrought into the laws of each. That any seed germ may have life in itself to produce a plant it must at the proper time of its growth receive power from the pollen of its own kind of plant. Thousands of species of plants are growing together in the fields and forests, whose pollen dust is being carried intermingled, by the winds in all directions, at the same time and is being carried by the bees into flowers of many differing species, each hour. Now this law of chastity makes every stigma immune to every form of pollen except that from its own species, and every form of pollen powerless except on a stigma of its own species. This universal law of chastity or immunity must be by design. Each form of pollen must be a separate creation. The vital force of each species of pollen differs from that of every other in existence. And the stigma of each species of plant is gifted with a quality of sensitiveness, that does not belong to any other in existence. This difference is structural, vital and chemical. The creation of each is acording to laws of its own, and after plans and specifications found nowhere else in nature. They are differently constructed, therefore this law of chastity, of immunity. If all pollen dust, and all stigmas were made after the same structural, vital and chemical plans the law of immunity of species would not exist. A few exceptions in nature as the mule, and zebula with their subsequent sterility prove the truth of the law.

6. Another evidence of the creation of each species of plant and tree is found in the systematic arrangement of species, into

orders and genera, and yet each species made after a different merus law in many essential respects of structure, and life, and chemical composition. It is a fact, known to every botanist that there are differences between plants of the same order as marked and positive as between individual plants of different orders. The rose bush and the apple tree both belong to the order Rosaseae, but they are far apart in almost every respect. A certain similarity of flowers bring them together for classification. Wheat and timothy both belong to the same order Gramina, but they differ very materially, the one from the other, and both differ again from corn, another plant of the same order. The vital and chemical and structural laws of each differ from all other plants of the same order. The apparent relationship is of design and is no nearer in each instance than in crystals of minerals differently compounded, and for which kinship could not be claimed, though both belong to the same order of minerals, as silicates, carbonates, or alluminates. The world in its composition and products is evidently, as a whole, an object lesson, in art, for those who are designed to live upon it, and be students of its contents and resources. The world is a landscape garden full of harmonies and beauties. The world is a pallatial residence. The buildings and grounds around them are full of contrasted beauties.

The world by design was filled with harmonies, like the shades of color in the solar spectrum, each joined to the other, but each governed by its own laws and owing its existence to a separate creation. Each separate law is a new thought framed by design into the structure of things, whether it be in the field of vegetation, or of light by which the vegetation is painted, or of the mineral from which it draws its daily food.

ON VARIABILITY AND UTILITY OF SPECIES.

CHAPTER IX.

Creations mark the boundaries of science, creations of matter and law. Discussions on science on questions outside of creations would be the discussion of science falsely so called.

The law of variability has a limit. It is not an infinite series, and an open door for the propagation of species. Because creations show the limit of existing things. This is the assumption of the record of creation and is supported by the natures of things. Matter and laws go together. Law is the regulation of matter, whether the things are intellectual, material or spiritual. And when we say the law of variability is limited, by the field of utility we speak a necessary truth because of the law of creations, because there are no creations beyond the field of utility. There is no evidence that God has made useless things. Hypothetical varieties are mythical structures. Thus we see that the law of variability has a limit and that limit is creation. A creation is making something where nothing was. This prerogative in the field of nature belongs alone to God. He can, as he has showed us, create bread, meat, water, meal, oil, life, manna, souls of men, worlds, and elements of matter.

A science is the investigation of some branch or part of creation, some of the discussions on variability and effects of environment are mythical because there is nothing in nature that is like them.

The field of creation is limited and its boundaries well defined, and is discoverable. And everywhere utility seems to be the chief end in creation.

Now it is evident that all things that exist have their being by design, and are the works of intelligence both in law and matter, while beyond the field of creation the field of science cannot extend. Therefore we affirm that the field of variability is limited by the law of utility, and we have found the boundary line for creations that can be numbered and classified. Therefore we say the law of variability is limited by the law of utility.

And all things are of necessity under the supervision of a Controlling intelligence. And utility is a measureable quantity, and its place in the midst of existing things is well defined.

The law of variability serves its purpose among the laws of nature. But its work is not as great as some have labored to show it to be.

THE CREATION OF SUN LIGHT.

CHAPTER X.

"And God made two great lights; the greater light to rule the day, and the lesser light to rule the night; He made the stars also." Gen. 1, 16.

The first verse of Genesis says: "In the beginning God created the heavens and the earth." Therefore assuming that the author of the record knew his subject, which none can question, this fourth day speaks of a special use to which certain worlds, the sun, moon and stars, were now appointed. Before this appointment they were not light bearers. But were like other worlds dark. The division of the subject matter of the creative record shows us that the creation of light was a provision for the infinitude of space. The act is not limited, but the preparation of light bearers was for a specific and limited purpose. With this agrees the testimony from nature. The laws of light are a universal, while the laws of the light bearer limit the sphere of their influences. These facts present the proposition that the sun, moon and stars give light because of their peculiar structure, that adopts and prepares them for this service among the worlds.

We shall endeavor to gather up some of the evidences that go to prove this proposition.

1. It was a work of design, shown by the harmony that exists between sun light and heat, and previous and subsequent creations, the most diverse, in both law and matter, and so was a creation.

2. The light and heat from the sun prepares the world for the support of both animal and vegetable life, and therefore was a creation.

3. The spectrum of the sun shows that it is surrounded by an atmosphere of peculiar physical structure, and so was a work of design.

4. This peculiar atmosphere, if we may call it an atmosphere, is so dense as to make the disc of the sun, and is apparently the main source if its light and heat, and was a new device among created things.

5. Between this outer atmosphere, and the body or nucleus of the sun there seems to be an open expanse of great depth, or height shown in the sun spots. These facts suggested to the mind of Sir William Herchel the idea that from the nucleus of the sun to the photosphere there was a non-luminous atmosphere while the light and heat of the sun were evolved from the photosphere.

6. It is now known by the aid of the spectroscope that the photosphere or disc of the sun is composed in part of an atmosphere of matallic vapors, from 3000 to 8000 miles in altitude, called the chromosphere. Beyond this chromosphere there is an atmosphere of hydrogen, in which clouds of flame mainly of hydrogen have been known to rise in twenty minutes of time to the height of two hundred thousand miles, and then entirely disappear within half an hour (C. A. Young in Johnson's Cyclopedia, Art, Sun).

7. Beyond this hydrogen there is the corronal atmosphere, of some unknown substance, far more rare than hydrogen and of great altitude. (Ibid) Keil and Delitzsch (Bib. Com. Old Tes., page 49), say it is now a generally accepted truth of natural science, that the light does not spring from the sun and stars, but that the sun itself is a dark body, and the light proceeds from an atmosphere which surrounds it.

8. And now that the photosphere is like a garment, or universal sheet of cloud structure cast about the true body of the sun is apparent from the fact that it is moveable, shown by the sun spots that come, and enlarge, and depart, and also make sudden forward movements. The equatorial parts of this photosphere revolve once in about twenty-five days, while at the latitude of 44 degrees it is in twenty-eight days. Showing that the elements of the photosphere have free, and in this case at least, regular movements among themselves.

9. So far as we are able to experiment on the degree and intensity of sun light, it is not produced by the radiation of heat from a molten world. Such light, which is metallic as a lime light, is dark when projected against the disc of the sun.

10. An atmosphere is not a necessary part of a world structure. The moon does not have an atmosphere, perhaps the same is true of other secondary planets. Mars does not have an atmosphere, and the atmosphere of the earth is nitrogen with

oxygen and carbonic acid gas. That of Neptune and Uranus are said to be of carbonic acid gas. The atmosphere of worlds is evidently a work of design, of choice, by him who made the worlds, and selected the places they should fill in the universe.

11. This difference in the structure of worlds would argue that no two worlds known to us are devoted to the same uses.

12. Here then, recurring to the proposition that the sun gives light and heat because of its peculiar structure, we have a world, the central one of our system, of very wonderful structure, differing from every other known to us, having four distinct atmospheres one above another, clearly defined, and of vast extent or volume, as compared with the atmospheres that surround other worlds. That of the earth is not more than about fifty miles in altitude. These atmospheres were evidently works of design, and hence were creations of God, as the record affirms.

13. The different structure of the several members of the solar system as to atmospheres, argues that they were not evolved from a common source or body of matter, but each was made as it pleased the author who planned them to differ, and thus manifested his supreme power and glory.

14. What then is sun light? The nearest representative or equivalent we can produce is the electric light. The electric arc is both the hottest and brightest fire we build. Also our electric light may be made as bright as the sun. Though we may not in a dogmatic way affirm that sun light is electric. Yet there is an intimate connection between the two shown by the coincidence of sun spots and electric phenomena on the earth.

Garret Service, in Public Opinion, June 7, 1900, says on the phenomena of the solar eclipse of May 28, of that year: "Looking at the corrona and the polar rays the impression that the sun is an enormous dynamo machine was overwhelming."

THE NEBULAR HYPOTHESIS.

CHAPTER XI.

The argument of the last chapter would lack in completeness if we left it without the consideration of its negative. The negative is the evolution of the solar system from nebulous matter, by its transmutation into known elements and condensation into worlds, the last step of which is now in progress in evolved sun light. With this prophecy of the future, when the matter of the sun reaches its utmost condensation, as it eventually will, then it too will become a dark world, and the solar system will sink into endless night, and the stars shall one by one cease to shine and the infinitude of space will be shrouded in darkness.

We wish to show the incompatability of this theory of the origin and end of things with the laws of nature now holding, and thereby emphasize the literal truthfulness of the inspired record, which does give a reasonable account of the origin of worlds and their uses, and perpetuity.

1. The known forms of matter cannot be put into the conditions of that supposed nebulae by heat or by chemical tests. The chemical laws now holding over the elements of matter make it impossible to destroy them. If the known elements of matter were vaporized, the nearest approach to that supposed nebulae known to us, there is then no known force in nature now holding, that could diffuse and disperse them into space, as that supposed nebulae was diffused. The vapors of water, as an illustration, must be lifted from the earth, and will rise no higher than that force puts them. The difficulties in the way may be apparent when we consider the enormous power of that lifting force, now in office, 14 pounds to the square inch of the earth's surface, and then consider the very limited altitude to which even that force can carry them. If we condense that vapor it is at once back to its original form. There is no chemical process that will nebularize an element or change the laws of its being so that of its natural accord it will be exempt from gravity. The flaming hydrogen at the disc of the sun is not deprived of its elementary constitution. It

reports itself in the solar spectrum. And it cannot by the most intense heat known to us be driven into interstellar space. Even electricty is held in bondage by the various world masses of matter, though itself is imponderable.

That supposed nebulae must have been of a constitution unknown to chemistry so that, the most fertile imagination cannot define or differentiate its true character. And hence the existence of that nebulae is altogether a product of the imagination, and its actual existence a myth.

2. Suppose however that such a form of matter did exist, and the solar system was framed out of it then what must have followed. This nebulous form of matter must have been transmuted into the 72 or more elements now composing the earth and sun and meteorites. But of the possibility of such transmutation there is no proof whatever. It is not found in the laboratory of nature, or of the chemist. The countless forms of mineral compounds, and of animal and vegetable life, each with its different formula of composition, and each a distinct and separate laboratory within itself, though all of them use some part of the 72 or more elements, and the various combinations are innumerable of minerals, food products, both for animal and vegetable, and poisons, and colors, and textile fabrics, etc., yet none of them transmute any of the 72 elements into some new form of matter, or evolve a new element, or destroy an old element. The alchemists tried it and failed. The spectroscope shows that the existing elements retain their individuality even in the chromosphere and photosphere of the sun, and remain subject, apparently to all the laws that govern these elements on this earth. There is no such thing in nature as a transmutation of the elements of matter, or the destruction of an element. Any theory of the origin of existing things that implies, or demands these things is evidently untrue to nature. All prehistoric forms of matter are mythical. Transmutation is possible only as a miracle, as turning water into wine, the rod into a serpent, the dust into lice. The necessity of transmutation shows the nebular theory false.

3. If now we take this supposed nebulae and attempt to reduce it to the worlds of the solar system it involves a game of fast and loose, for it implies that the central nebulae could not hold all of its matter together but rings of matter according to

the theory, were left behind, as many times as there are planets. But yet it must be allowed that the substance of these several supposed rings of matter were very firmly held in their several orbits. There is no sign of weakness now apparent in the solar system. The planets are held firmly in their orbits. The game of fast and loose over the same matter at the same time is not found in nature, and is not true and the theory is proved false a second time.

If now we turn to the Martian system of worlds, we find another form of variableness to be in demand to a very marked degree. From the outer moon to the inner moon the axial rotation of the parent nebulae must have increased its speed nearly four times, then from the time the inner moon was formed to the present era of its existence dimished its speed more than three times, for the time of the outer moon is, 30h. 18m. The time of the inner moon is 7h. 39m., making nearly four revolutions while the outer moon makes one, while the time of the planet's daily revolution is now 24h. 37m. 22.67s. The length of the present Martian day is determined by observations extending over more than 200 years, and is true to the 67-100 of a second indicating absolute regularity of axial or daily revolution at the present time. This mutability of planetary motion demanded by the nebular hypothesis is contrary to all known law, and the hypothesis is therefore proved untrue.

The truth of the inspired account of the origin of worlds is apparent from the necessity of creations, in their supposed evolution from this imaginary nebulae.

The several transitions demand changes that are so radical as to require creations to secure them. This nebulae or fire mist had existed a certain time, perhaps an eternity without condensation. Evidently the law of gravity did not exist or that nebulae was not subject to such law. To exist, such law must have been selected and all matter subjected to it. This law automatically locates the center of every mass of matter and there draws with equal force every particle of that mass toward that center. Gravity with its attracting force impels matter into perfect spheres, whether it be shot or rain drop or worlds.

And then it holds it there with all its power quiescent forever. If left to itself it would apparently force all the matter

of the universe into one motionless mass, because the pressure is equal from each quadrant of the sphere.

Now this nebulae did not give birth to this new force, and then subject itself to the new master. Its existence argues an intelligent and designing author and this necessary creation of a new law and force proves the theory false a fourth time.

Another such new departure is found in the law of orbital motions of the planets, supposed to have been evolved out of this nebulae. But the existence of the law implies the supervision of a designing author, and the necessity of a creation. Another such new departure is found in the existence of axial rotations. These new laws prove the nebular theory false a fifth and a sixth time.

These great laws of motion that govern the matter of worlds could not come from one common impulse, for they often antagnise, and are at right angles to each other. And the various systems of worlds approach and recede from each other from every point of space. These separate laws of motion would seem to indicate as many separate creations, as there are departures in nature, and the theory is proved false a seventh time.

One fact seems to indicate that there is among the worlds found in interstellar space a universal principle of repulsion, above and greater than attraction of gravitation, that sends these heavenly bodies back in their several orbits, so that a fixed star that nevertheless moves, cannot escape from the confines of its own territory, nor aught that belongs to it escape to some other system of worlds, after the analogy of the multiple and variable stars. If such force exists it did not originate from matter but must have been a product of choice, a work above nature, a creation.

Each planetary motion is of necessity a new departure, and a new creation, because so far as the solar system is concerned, which may be a type of all systems of worlds, no two worlds have their axis parallel to each other, or have orbits at the same inclination to the plane of the ecliptic, or axial rotation of the same number of hours. No two members of the solar system have the same pole star. In all of these respects each world has its own individual characteristics. Hence no one

planet begat another. No one planet has such motions that we can safely ascribe them to another planet, we must look beyond to an intelligent and Divine author, who made all things as he pleased. The theory of evolution according to the nebular hypothesis is not true to nature's laws that now govern all things. Each world was a separate creation because it possesses an individuality peculiar to itself alone.

THE CREATION OF ANIMAL LIFE.

CHAPTER XII.

"And God said: Let the waters bring forth abundantly the moving creature that hath life, and fowl that may fly above the earth in the open firmament of heaven. And God created great whales, and every living creature that moveth, which the waters brought forth abundantly, after their kind, and every winged fowl after his kind." Genesis 1, 20-21.

"And God said: Let the earth bring forth the living creature after his kind, cattle, and creeping thing, and beast of the earth after his kind, and it was so. And God made the beast of the earth after his kind, and cattle after their kind, and everything that creepeth upon the earth after his kind." Genesis 1, 24-25.

These two, the fifth and sixth days of the creative record, treat of a kind of life, that has a certain view of similarity running through all its varied forms, and because of that similarity we join them in this discussion. Also, the life ancient and modern seem to be joined in one. For many species of plants and animals now living in the world did live also in tertiary age of the world. In some cases as high as 50, 60, and even 70 per cent. of the forms of marine life of the tertiary age are still found in the seas. And every year modern discovery increases the number of examples that serve to illustrate this fact. (Dana's Geology, p. 542): Globerina shells and cocoliths like those found in the cretaceous formation, which underlies and is therefore older than the tertiary formation of rocks and earth are now living in the deep Atlantic. (Wyville Thompson, "The depth of the sea"): Showing that modern life is joined to that which is more ancient at many points, so that the forms of life in the different geologic ages from the tertiary down to the silurean so overlap each other that they prove clearly that the earth has been continuously inhabited, to its full capacity, ever since life began upon it, and show that modern life cannot be separated from the most ancient by any known azoic age, or by the beginning of a wholly new order of things at any time after the first forms of life appeared on the earth. Though at the same time

it is abundantly shown that the various species of plants and animals have each had a limited duration. Sometimes existing through but a part of a geological formation (Hitchcock's Geol. pp. 361-362). And none of them extending through all of the fossiliferous rocks down to modern time. Therefore both science and the Bible would seem to demand that all ancient forms of life (John 1, 3) as well as those that are modern must be included under the head of creations of these three days, for there is no break in the order of succession.

But if now we include, in these three days, all that we know to exist under these several heads of creation embraced in the third, fifth and sixth days then it will appear, that these three days were of necessity very extended periods of time, as extended as the time occupied in the formation of all the sedimentary rocks. Also it will appear that the periods or days of the creative week were of unequal lengths of time. Also it will appear from the testimony of nature, which is no insignificant witness in the case, that at least the third, fifth and sixth days were composed in part of cotemperaneous times, in which the world was often and at the same points of time being replenished with creations, for each of the three days. For species of vegetable life, and of animal life for sea, earth and air lie buried in the same graves all over the world. They must therefore have lived together. While these days were therefore cotemperaneous, yet each day had nevertheless its evening and its morning, its beginning and its ending, separate and distinct from all the rest, and each day was all comprehensive, also the days were properly speaking successious in the order named both as to their mornings and evenings.

It now remains to show that the affirmations of the separate creation of each individual parent of any given race or species of animate life is necessarily the true account of the origin of things. The text speaks of the creation of each after his kind. The creation is individualized, the male and his female. And when for man there was no companion found one was made. Now the proofs of this necessary creation of each individual parent of each species is shown by the marks of separate design manifested in each individual creature made.

In presenting this argument from design let us select an animate body of the most complete structure found in the world,

as an object lesson by which to point out some of the marks of that design found in the structure of animate life, and thus show the necessity of its being a creation. In its structure it is composed of many systems joined in one living creature skillfully framed together, as the nervous system, the osseous system, the cartilagenous system, the muscular system, the circulatory system, the respiratory system, the absorbent system, the alimentary system, the glandular system, the reproductive system, the integumentary system, the system of natural clothing, and lastly, the vital system, which is over all the moving power that gives united activity to all these parts.

Then each of these systems is subdivided again into many parts, as the nervous system into nerves for seeing, hearing, smelling, tasting, feeling, the power of motion, and the mental faculties. The osseous into bones of many forms and sizes and uses, so the cartilages and muscular. The respiratory system and circulatory system into lungs, heart, arteries, veins. The absorbent system into a series of provisions by which the waste and dead material of the living body may be carried out of it. The system of natural clothing into hair, fur, feathers, scales, wool or shell. To these and over all in each form of creature is added the factor of life that binds these several systems into one living body or being. And this life makes each part or factor of which the body is composed minister to the maintenance, and utility of the whole body, and to the perpetuity of the given species. While these thirteen systems or separate parts are joined into one body they differ in structure and composition, and office work, the one from the other. To show their separateness we may note that each one of these systems or parts of the body are subject to diseases peculiar to themselves, as diseases of the lungs, heart, nerves, bones, secretions, or skin, and also in the natural world there are remedies or medicines found for each, that act with special power on the diseased parts, as nervines, sudarifics, cathartics. The physician's skill is shown in his being able to diagnose the true location of the disease, and in his ability to select from the material world about him the best antidotes for that disease. Also each system is essential to the life and perpetuity of the whole body. These several systems framed together into one structural make one of the most wonderful and cunningly devised

pieces of machinery in existence. It can do more kinds of work, and serve a greater number of purposes than all the thirty thousand patent machines that men have invented, the models of which are stored in the patent office at Washington. And if these patents are severally works of design, and creations and what can be said of this human body as a machine, it also must be a work of design, and therefore a creation. Also because of the superiority of this piece of living machinery over all that men have invented, the designer and creator must have been immeasurably wiser and greater in artistic skill than any man.

To show the wonderful character of this creation and also design, let death and decay take hold of the material substance of these several systems in any given body and they all crumble to a few earthy, and liquid, or gaseous elements, and thus prove that the original designer, and builder took parts of these elements, and constructed them into these living factors of the living body, and out of them made the eye for seeing, the ear for hearing, the brain for thought and reason, and commanding the body, the stomach for dissolving food, and the heart for forcing the blood to every part of the body. And also out of these same mineral elements constructing and then fitly framing every other part of the body into one harmonious whole, a wonderful structure. Then to all these when built together, added the factors of life, mind and soul, that are not found in elements of matter. These facts greatly intensify the evidence of design, and also of creation. Indeed it is utterly impossible to account for them in any other way. For each separate system is a new use of these elements of matter, and the utility of each is dependent upon a new series of laws that God only, the infinite mind, could ordain. Laws of the nerve substance, laws of the bone substance, laws of the muscular substance, etc. Another thing, that emphasizes the evidence of design, and also emphasizes the wisdom of the designer, as well as the genius of the creator of this object lesson, is found in the facts that the eye is perfectly adapted to the laws of radiation, the ear to the vibrations of the air, the sense of smell to the existence of perfumes and ordors, the gastric juice to the chemical composition of food materials. The designer knew the inherent constitution of all the elements of matter and had the wisdom and power to handle them as he pleased, or as he designed. The

further evidence of design, and of creation, may be seen in the adaptation of other parts of this body to the ends that were evidently in the mind of the designer. The hand was adapted to handling, the foot to walking, the body of a man to uprightness, the muscular parts for useful and necessary motions, the involuntary muscles to act a life time without weariness. The evidence of design and also of creation is still further intensified when we take into view the whole number of living creatures found in the world, and note that no two species of animate life are constructed alike, each differs from all the others in various essential particulars. The laws that govern their structure and composition differ. The blood corpuscles are not alike. The murderer can be detected by the blood stains on his garments. The atomic structure of the ovum, and of the seminal fluid of each species differ from those of all others, so that hybrid species are not known to arise. The integumentary system of each species is peculiar to itself and different form all others. The structure of the natural clothing of one species is distinct and separate in part or whole from another. A fossil tooth, will enable a scientist to construct the whole creature because of the certain harmony that exists in the differences of these several parts. And so on, through all the different systems or parts composing each several species where contrasts can be made. These variations, as numerous as there are species in existence, argue a separate design for each. The designing mind planned them to differ. Each model in the patent office was designed to be different from every other. So in the great museum of nature. This evidence of design in the structure of all the separate parts of this living being, we have chosen, is intensified when we note that no one of these several systems of which it is composed can do the office work in that body that belongs to another. The osseous system cannot do the work of the muscular, the alimentary system cannot do the work of the absorbent system, the circulatory system cannot do the work of the nervous system. And no one of these can do the work of the element of life that pervades the whole structure.

Also we may note that each part was designedly framed to the others, for one system could not beget another, and then frame it into the body, and give it its office work, and then originate the new laws that govern its functions. Nor could

any one system design and then create itself, and then, later on, search the animal world for a home, and when it found a suitable place frame itself into that body, and become an essential and useful part of its being. Neither could the combined power of all these systems that exist in the human body devise, and then incorporate a new system into the human body. Christ apparently answers such a speculation as that when he says: "Who by taking thought can add one cubit to his stature." Much less could he add a new factor, a new sense or mental faculty to the framework of his body. None but the Divine architect who first designed and then constructed the eye could so change it, as to enable it to see with the ultra red, and ultra violet, and X rays. To such a vision all solids would be transparent. Our inventions in the field of optics make no progress in that direction. The telescope and microscope only increase our power of vision now possessed.

Neither could a new sense or system or part of a system transmigrate from some other form of animate life, and become a part of the human body, or even be engrafted upon it. Such addition would make it a monstrocity, a dagon, a mermaid, a centaur, or a moloch. It is true the human mind has framed the ideals of such creatures, but these intellectual creations were known to be myths, and not real, illustrating the impossibility of adding any new factors to any form of living creature. Each species is a seperate creation because each is constructed after a different merus law of bones, cartilages, muscles, blood corpuscles, nervous system, digestive system, reproductive system, integuments, natural covering, and life. These laws of individuality that determine the characteristics of each species are no small part of each separate creation. By these laws one species is made to differ from another in every respect—chemically, in structure, and as food substance, also they indicate the minutest specifications of the several designs in any given structure. What shall be its disposition, mode of motion, size, dental formula, whether carniverous or vegetarian, whether fowl, fish, mammalia or beetle. What the simplicity or complexity of each structure, as compared with that example we selected above. These laws also determine the utility and office work of the given species in the economy of the world. Whether servant as the horse or ox. Or producer of valuable products as the

sheep, sea otter, silk worm or swine. Or to act as a scavenger as the vulture, buzzard, or burial beetle. Or whether they shall be builders in the frame work of the world, as corals, infusoria, or shell fish. But the merus laws of each, when ordained are immutable, and remain the same for each species from generation to generation, and from one geologic age to another. Concerning these laws the following points are self-evident: (a), These laws were not self-made. (b), They were not devised by the creatures subject to them, as the laws of a state have been by the people in it. (c), They were not devised and called into being by other laws, called laws of nature. (d), One creature did not originate the laws for another creature. (e), Man, a law-maker and builder of new designs, did not originate any of the laws of nature or laws that govern the structure and the life of the animate world around him. (f), The laws of each species are so wrought into the structure of that species that they show themselves to be parts of the design, and inseparable from it. (g), The laws for each one of the half-million of species that inhabit the world are so different from the laws that govern every other one of the half-million species, that each species must have had a separate creation, to acount for its existence, as well as a separate design, by a competent designer. (h), The several forms of animate life for sea, earth and air, are so related to each other, in ideal that they must have been designed and made by the same author. A being of infinite intelligence to be able to frame in his mind the models or ideals for all the separate creatures that have inhabited and do now inhabit the world. And a being of infinite power in commanding to be able to cause the lifeless elements of matter to assume all the forms that are found in the animate world, and perform all the functions that characterize the living creatures that inhabit all lands and all seas. (i), Also the infinite resources and wisdom of the author of the life of the world appears in that the laws that control the life of each species of living things as compared with the laws for every other species of living things are new laws. Though all of them were evidently designed and ordained by the same law giver, because they all ocupy a field of legislation accessible only to God, the one Being infinitely wise, and of infinite power and resources. (j), Each creature represents a finished thought, not susceptable of improvement, for its special

place and work. It therefore came perfect from the hand of the alwise and designing author. Take away the toes from the sloth and the whole structure would need to be changed. Take away the trunk from the elephant and the species would immediately perish from the earth. Take away the reason from the mental faculties of the man and he would at once cease to be the lord of creation. Each special part of each individual creature shows a finished thought on the part of the author.

THE DAYS OF CREATION—AN HISTORIC FACT.

CHAPTER XIII.

"And the evening and the morning were the first day." Gen. 1, 5.

"And the evening and the morning were the second day." Gen. 1, 8.

"And the evening and the morning were the third day." Gen. 1, 13.

"And the evening and the morning were the fourth day." Gen. 1, 19.

"And the evening and the morning were the fifth day." Gen. 1, 23.

"And the evening and the morning were the sixth day." Gen. 1, 31.

"And God blessed the seventh day and sanctified it, because that in it he had rested from all his work." Gen. 2, 3.

According to the fourth commandment man's week for labor and rest is founded upon God's creative week. There are some points of contrast however, between the two which it may be well to notice. (a), Man's week for work and rest is limited to seven consecutive revolutions of the earth on its axis. (b), God's creative week, judged by the works performed in it, must have been a period of incalculable duration, and the day of rest may prove to be a time equally extended, for the scriptures warrant us in believing that the present order of things which is God's Sabbath, will last until the day of judgment, when time shall be no more.

(c), Man's week forever repeats itself. (d), There is no indication in nature or revelation that God's creative week as here recorded will ever repeat itself. (e), The days of man's week are of the same length, that is, twenty-four hours each. (f), The days of God's week of work and rest, judged solely by the works performed in each, that are enumerated in the record, and are visible in the material universe, were of differing periods of time. The first and second may each have been but a moment, or the times, selected in which to give the commands: "Let there be light," and "Let there be a firmament in the midst of the waters,

and let it divide the waters from the waters," while the remaining days of the creative week have been periods of great duration, witnessed by the slow process of building the sedimentary rocks which contain countless generations, of animal and vegetable life, buried in the order and succession in which they lived, each, to maturity and old age. (g), The days of man's week are strictly successions of time. The new day never begins until the old day is finished. Time comes to man moment by moment, and day by day. (h), The days of God's creative week had, in part, the elements of successions of times and, in part, they were composed of cotemporaneous times, like so many departments of work carried forward at the same time, while the things wrought in each were separate and distinct in all respects. For the fact that the flora of the third day, the fishes and birds of the fifth day, and the mammalia of the sixth day, lie buried in the same grave, the fossiliferous rocks of the different geologic ages prove that they were being created at the same time, in like manner, so also the several branches of natural science written upon these creations of the several days show how distinct each day in its creations was from all the others. Also these several departments of days of creation are found to fall, naturally into a certain chronological order that answers to the successions of the creative days as recorded. This thought of successions is an essential part of the record. But also that the creations of the days were in part carried forward cotemporaneously is the undoubted testimony of nature. We think the evidence is sufficient to show that both of these points are true. Let us first note this law of successions.

1. The laws of light and of radiation, the work of the first day, were essential to the existence and completeness of each of the subsequent days or departments of creation and prepares the way for them, and they can exist under the constitution and laws that now govern each of them only by the assistance of this first day's work. For take away the laws of radiation, which include those of light, and the utility of all subsequent creations would instantly cease, and most parts of them perish. Therefore the first day's creation necessarily precedes the works of the other days, and the place it holds in the record is the true one. The interdependence of the days demand that this day be

placed first on the list in the enumeration of the days. The author of the record made no mistake.

2. The atmosphere or the creation of the second day, is now and apparently always has been essential to the existence of all material life on this earth, and must therefore have preceded it. For all flesh is now introgenous in composition, and hence it was one of the elements used in construction of living creatures. Also vegetable and animal life have always existed under its pressure, and as the supporter of the elements essential to the principle of respiration that is wrought into the structure of both plant and animal life. Also the atmosphere, the divider of the waters conserves both heat, light and sound, so as to make the earth habitable by such creatures as now live upon it. Without the atmosphere the earth would at once be empty and desolate, as it was when it first came from the hand of God. Therefore the work of the second day precedes the creations of the succeeding days and prepares the way for them. And the time table of the creative week is once more found to be in harmony with the laws of nature that govern all things. And the laws now holding have evidently been in force without change since the beginning of material things. And the author of the record knew those laws when he dictated these words of history.

3. The work of the third day must, in the nature of things, have preceded the creations of the fifth and sixth days, for the dry land is the natural home of most of the living creatures made on these two days, and also the dry land is the natural home of the many forms of vegetable life, made in the second place on the third day. And also it seems to be an established fact that all forms of animate life, both for "sea, earth and air," the works of the fifth and sixth days, are so constructed as to depend ultimately, for sustainance upon the vegetable world, Gen. 1, 29-30, the creations of the third day. Therefore the creations of the third day necessarily precede the creations of the fifth and sixth days.

The argument for the precedence of the third days to the fourth is not so clear perhaps, but the following points may be given. The record affirms it, and that of itself is the highest possible authority. Nothing can supercede the inspiration of

God. The separation of the fourth day from the first day was by design, though they both treat of the same office work among the creations. Yet there is a difference. The first is a universal provision.

Radiation is for all worlds and all space. On the other hand, sun light, and star light, and moon light, the creations of the fourth day, are local provisions under this universal law and therefore are later creations. They are like the lamps and fires that warm and light our houses, in their relations to the broader creation of the first day.

Also the creation of vegetable life that is placed before sun light and sun heat on which it now depends, may be explained by an appeal to a phenomenon known to the geologist. Explorers that have visited the antarctic continent found parts of trees of large size, in the places they grew, and other remains of what might seem to be tropic vegetation. Similar discoveries have been made in the north frigid zone, along with deposits of coal. Indicating that at that time the climates of the earth were different from what they are now. The circumpolar regions enjoying something like a tropic climate. While on the other hand the coal measures of the tropics in their structure and fossil remains do not differ materially from those of the now frigid zones. The conditions of life were then the same in all parts of the world. Also the fossils of the older systems of rocks, as devonian, silurean and cambrian are represented as being practically the same in all zones, as now divided. Apparently because of this sameness of climate and the fauna and flora in all lands and zones of latitude all of which argues that the heat that made the world habitable did not then come from the same source as now. The signs and seasons were different. The light and the heat had the character of universals, extending equally to all parts of the world. Now, tropical life in all parts of the world is essentially different from that of the temperate and frigid zones, then they were the same. This phenomena may be explained as follows: It is generally believed that the earth was at first molten, and believed also that now it is still molten within, though that heat does not now effect our climates, yet there was a time when it did. And the circumpolar regions and the equatorial lands were equally near that fountain of perpetual heat. And the light of that first

day of creation was sufficient for the vegetation that covered all lands. In the process of time, the earth by radiation would cease to be the fountain of heat for its living freight. Then in the fullness of time, without a break in the natural order of existing things, to show exactly where in geologic time the event occurred, the central world of our system of worlds was by creation made to be the fountain of light and heat to a system of worlds that revolved about it. And it began to rule over the days as the record says, and make the signs and the seasons, and number the years. Leaving us to infer, that before this, time was without these limitations of signs and seasons, days and years. But after this there was winter and summer, and the zones of heat were from the torrid to the frigid while the circumpolar regions lost their tropic vegetation. This evidence of a change in the plan of lighting and heating the world, in the midst of the days shows the possibility of the literal truthfulness of the record that the third day with is vegetation, in its morning, did antedate the morning of the fourth day on which it afterward came to depend for its life. And the order of the succession of the days in the record are found to coincide with the order in the natural world as taught by the science of geology that seems to be well established in its testimony on the transition from the light and heat of a former order of things to that of the fourth day. This transition indicates the time when the creation of sun light and sun heat occurred.

4. That the light and heat of the first and fourth day combined preceded the creations of the fifth and sixth days would seem to be an absolute necessity in order to their existence at the present time. Though we cannot tell in geologic time, more closely than indicated above, when the sun, moon and stars were installed in office as rulers over the days and nights, for that office work was a divided honor. The proof of which is seen in the contrasted climates of the circumpolar zones, now in glaiers. And then by their tropic vegetation that is now in its fossiliferous state. At some future date the students of geology may be able to point out the exact place in geologic time when this event of transition occurred. (See W. B. Scott's Geol. p. 368, p. 421). All we can affirm now is, that the sun as the fountain of light and heat for the world did actually precede the creations of the fifth and sixth days as they now exist in the

world. And the order found in nature confirms the truth of the order found in revelation.

5. The first creations of the fifth day, or department of creation antedates those of the sixth by a very extended period of geologic time. For near one-half of the fossiliferous rocks were formed before any kind of mammalia appeared, or have as yet been discovered, the various orders of which make up the controlling forms of living creatures that characterise the creations of the sixth day. And thus the order of succession of these two days in geologic time is very strongly marked and abundantly confirmed the order given in the inspired account of these events.

6. That the creations of the sixth day were the last in the order of successions of created things is clearly shown by what has been said under the head of the fifth day. The inspired order of the events corresponds with the order that is found to exist in the natural world, both as to the beginning and the ending of the sixth day or department of created things. For man and those creatures that came into being with him and now inhabit the world with him were the last in the series of created things. The inspired record affirms that the last of the sixth day, the creation of man, was later than the last of the fifth day, and also was the last of the sixth day, by the declaration that: "Adam gave names to all cattle, and to the fowl of the air and to every beast of the field." They were there to be named, and by the declaration that Adam was appointed their ruler, which are known to be true to nature. Man names, rules over, and appropriates to his own use all else that is found in the world. He proves that he is the highest type of all created things. He rules over and directs the destinies of the world. This authority that he exercises has never at any time been shared by any other, earth born creature. This testimony would seem to indicate that when all else was created then man, the ruler of the world, was made and installed in authority over it.

7. The time now passing since the creation of man is believed to be the Sabbath of Divine Rest, that God "sanctified" which will also continue to the end of time. And if so, it serves to set forth the broad signification of the word "day" as used in the record, being equivalent to time indefinite. And viewed from the standpoint of the natural world that is passing before

us, there is no evidence that there has been any creations since man appeared on the earth. God has rested, kept a Sabbath, as the record affirms.

It is to be noted however, as bearing upon the truth of this record of creation, and of the whole book of revelation, that when God spoke to men, they asked: "What sign showest thou (Ex. 4, 8-9; Ps. 7, 7; Js. 7, 11; Mat. 12, 38) that we may see and believe? Presumably, that thou art God and the author of creation." The signs wrought to satisfy this inquiry have been miracles and prophecies. And while it is true that God "rests" from creation, yet by these he gives the evidence that he has not withdrawn from the earth. For they are the equivalents of, and the same class of works, as the creations of Genesis, and show that one being was the author of both, and that the voice that spoke was in each case the voice of God. And noted also, that those who deny the truth of creations, deny also the truth of miracles and prophecies.

8. One marvel of this creative record is found in the division of the materials at hand into six parts, or days. Another wonder appears in the fact that these six divisions or days of work, are so comprehensive as to embrace all things. And still another is seen in that the several days selected and numbered, should be along the lines of these natural successions, which when studied thousands of years after are found to be so clearly marked in nature as to be discoverable. This division of the days is a proof that the author of the creative record knew all things. And this division of the days along with their comprehensiveness shows that God's great week of work and day of rest was real, not mythical, as some affirm, not a panorama, or prophetic vision passing before the mind of the writer, as others affirm, but plain matter of fact history. Which statement is emphasised by the facts noted above, that the record implies that the creations of these days, or departments were all separate and distinct in their subject matter, the one from the other. Also again when an appeal is made to the testimony of science it is found that the works of each day are severally governed by a different series of laws, and also that they make one or more separate departments of natural science. Also it may be noted that the laws and forms of being of one day could not by any natural law now existing be evolved out of the laws and forms of

being of another day. Hence the days of creation are separated by well defined boundary lines as every series of historic statements should be.

9. Is the assumption that these creative days were in part cotemporaneous times and departments of work allowable in the interpretation of this scripture? Yes, if the scriptures and the creations combined do really demand it. Also it is fair to assume that the language describing an event or work is as broad and comprehensive as that event or work is found to be. Else we might rule almost any cause out of court. The word "day" in this creative record is evidently used in the sense of time indefinite for the first, second and third days are numbered and named before the recorder of our days and years was created. And when the remaining three days are considered in conjunction with the creations of those days, they, too, evidentiy demand times indefinite for the completion of the events enumerated. It may be noted that the word day, is frequently used in scripture in the sense of time indefinite, as in Gen. 2, 4: "These are the generations of the heavens and the earth, when they were created, in the "day," that the Lord made the earth, and the heavens." And Gen. 2, 17: "For in the "day" that thou eatest thereof thou shalt surely die." The proofs however that the days of creation were actually indefinite times are drawn almost wholly from the creations enumerated as made on those days.

10. We may note also that on the first day, there was but two creative acts enumerated. The light and the darkness. On the second day but one. On the third day there were many: the seas and the dry land, and unnumbered forms or vegetable life. Each species of which is governed by a different merus law, and constructed after a different chemical formula.

On the fourth day there were as many separate creative acts as there were suns to give out light and heat. And they cannot be counted by the aid of the most highly finished scientific helps any more than by the naked eye.

On the fifth day there were as many separate creative acts as there are species of animal life that have at any age of the world existed for the sea, and the air.

On the sixth day, the creative acts were as many as the forms of life for the land. For each species of animal life has

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been constructed, like the species of plant life, after a different merus law.

And each several creation in all of the days a separate work like any one of the miracles of the Bible, that demanded the presence and power of one who was able to work above the laws of the natural world, and for each creation ordain the new laws by which it must forever afterward exist.

CHAPTER XIV.

THIS HISTORY OF CREATION EMBRACES ALL THINGS—"Thus the heavens and the earth were finished and all the host of them." Gen. 2, 1.

The first chapter of Genesis is first of all an historic record. Its subject matter declares it is history. (Keil and Delitzsch Com. Old Tes., page 45). History is the record of actual events. The term is applied to the events that have occurred in the life of a state, or a nation, or the world, or of an individual, when it is called a biography. If of the church it is called Ecclesiastical History. When then the record treats of the things in the world around us it is called Natural History. When it treats of one part as Geology, or Botany, it is denominated the history of that department of knowledge. So in like manner this record of events in the first chapter of Genesis is history. And not only so, but it is the most comprehensive bit of natural history found in the world, in that it records in brief space an account of the origin of all things. History is a matter that stands in contrast with myth and fiction, both of which are products of the imagination, while history is a record of events that are true. Then between these two myth and fiction, there is a difference. Fiction is the modern dream of some author, while a myth is usually accepted as the product of prehistoric peoples. While the myth also embraces chiefly, the religious speculations of these ancient peoples, fiction treats of every imaginary subject. There are those who call the record of creation found in the first chapter of Genesis a myth. In the previous chapters of this work, we have endeavored to put the things that have existed, and do now exist, along side of that record, and thus show how fully it comprehended them all, and thus show that its claim was a true one. It is an account of what God has made. It is a true historic record.

That a record may be true history, it must be circumstantial. The events and works must be itemised. The record must be in chronological order. The record must be as comprehensive as the field it would set before the reader, nothing should be left out. All the affairs of the state or nation should be brought in review. Such ideal history is not easily written, and perhaps by human authors cannot be attained.

There are those who hold that the first chapter of Genesis is a prophetic vision of the past. A prophecy and the first chapter of Genesis or a history are alike in this respect, viz: The author of the prophecy must know the future events that he predicts. The author of a history must know what has transpired. In other respects the work of the historian and the prophet differ, the one is looking forward, the other is looking backward. In one respect the field of prophecy, and the first chapter of Genesis are alike. The range of both are beyond the vision of man as to authorship he could not produce either of them. For the evidence is abundant and indisputable that man came onto the stage of being among the very last of existing things, therefore he could not have told of the "beginning" because his age on the earth was great. Different races and peoples have tried it, but their writings show the futility of such efforts. Mankind have always been trying to look into the future, and see what events of good or evil fortune were awaiting them. But with all the light and knowledge we possess we are not able to tell what a day may bring forth. Having made these preparatory remarks, let us proceed to show how fully the record of creation answers the conditions of a true history of the origin of all things.

The account of creation is a scientific record, which treats of the beginnings of the things on which the several natural sciences known to man are founded. The heavens and the earth, the sun, moon and stars, furnish the materials for the science of Astronomy. The earth in its continents furnish the materials for the sciences of Geology and Geography. The reference to light speaks of the material foundation of the sciences of Optics and Radiation. The division of the waters above the earth from those upon it furnish the basis on which the science of Meteorology is founded. The creation of plants, trees and herbs give the materials on which the science of Botany rests. The creation of sun light, and starlight, speaks of the materials on which the science of Solar Physics is founded. The creation of animate life, for sea, earth and air enumerates the materials on which the science of Zoology, in all its branches, is built. The creation of man in the image of God, furnishes the materials on which the sciences of Moral and Mental Philosophy are built, and part of the foundation and material for a system

of Theology. And this proposition is also true, viz: The converse of the above that every branch of the natural science, or even part of a branch of natural science is the exposition of a creation, of one or other of these days. Every seed, or leaf, or pistol, every atom of matter, every ray of heat or light, every germ of animate life, every mote of star dust, every grade of intellect, except the infinite, are all creations, and these give the elements on which all scientific research are founded.

The reference to these things under the head of "the beginning," "the earth," and the "six days," are so taken as to comprehend the whole of material things. He that made "heaven and earth" made all worlds. He that made the light made all radiations of which light with its laws is an essential part. He that made one firmament made all firmaments. He that divided the dry land from the waters on the earth has arranged the elements and materials on all worlds to enhance their utility. He that planted one world with vegetation, has planted all worlds where similarly used. He that made one world a light bearer, kindled the stars also. He that filled one world with living creatures, has utilized all worlds, so far as it has been as yet accomplished. He that made man, made angels also. The being, whose image man bears, is the author of all these material things that exist, for man too in like manner is a creator, mathematician, author. Now these are the things that prove the first chapter of Genesis a true history. The several parts are so selected, as to embrace the whole of each great department of creation. It is true history because the several creations, works, and events are taken up in their true and chronological order, the truth of which can be seen and proved. It is true history because the things made are in every case before us, and we can compare the goods with the inspired inventory of them, and see that every thing in the count is correct, as set forth. It is true history because no living creature but the infinite God could call into being in their orderly array the things enumerated, set up the orrery of the heavens, cause the light to fill all space, and ordain the innumerable laws of nature. It is true history because the author was both competent and honest. It is true history because the auther intended to give us an account of what he himself had made. The internal evidence of this is abundant. There is no evidence of

subterfuge or deceit. It is a noteable fact that the first principles of every science is an inventory of the materials and laws upon which it is built. A work on astronomy turns the eye of the student to the stars of heaven, and enumerates the laws of their motions. A work on chemistry enumerates the elements of matter composing the worlds, and their laws. A work on optics tells the student tha a ray of light is the foundation of its science, and it proceeds to enumerate all the laws that govern that ray. A work on meteorology discusses the phenomena and laws of the atmosphere. A work on geology explains that it is about to speak of the rock formations of the world. A work on minerology explains that it will treat of minerals, their composition and structure. A work on botany begins its lessons by describing plant life. A treatise on solar physics sets forth the light and heat giving powers of the sun. A work on zoology first of all speaks of the animate world concerning which it is to treat. The sciences of moral and mental philosophy discuss the powers of the human mind and soul, and point out the relations of these powers to the attributes of God, their author.

Now when a man is speaking of these first principles of any science he is talking science as surely as when illustrating and enlarging upon these "first principles" in the later chapters of his work. And to speak faultlessly, about these first principles of any science, shows that the man is thoroughly accomplished in that department of research.

And now it is at this point that we perceive the Bible to be a masterly scientific book, and its author to be thoroughly posted, and all that he says to be reliable, when speaking upon things in the natural world. Evidently science will never make such strides of progress that it will get beyond the letter of the book of books. Because the first principles in the philosophy of every science are summed up in those several creations in the first of Genesis. And each several science can neither add to, or take from, as to its foundation, the things there enumerated. Each brief statement embraces the elements that make the foundation of one or more of the sciences. We may safely assert that the first chapter of Genesis is the most wonderful scientific record in the world, for in one brief chapter there is a definite summary statement of the materials, and consequently of the laws and principles that underlie all of the several and in-

dividual sciences, in the material, and intellectual, and spiritual universe of the infinite and eternal God. Men will search all the volumes of human literature in vain, for as comprehensive and faultless summary statement of the basic principles of all the sciences, as is contained in this first chapter of Genesis. And the most wonderful thing about it is the fact that while all comprehensive it is faultless. There is not one factor out of place, or statement made, that does not have illimitable proof of its truth, and of the appropriateness of the place where found. These things show us that the author of that record knew all things. And to give us an itemised, chronological, comprehensive, reliable statement, of the facts in the case is the highest type of history in the world.

Each brief statement of a creation embraces the elements that make the foundation of one or more of the sciences. And since the creative record makes no error, by naming too many, or too few creations, in enumerating the things and elements that lay at the foundation of these several sciences, it is not proper, nor speaking truth, to say: "The Bible is unscientific," or to insinuate that the declarations of the scriptures, and the deductions of established modern science are in antagonism. For in every case the superstructure of each modern science is built upon a creation that God specifies and limits, and bounds, and claims as his own work. While no science can enlarge that foundation, or leave out any part of it, while there are no materials found, on which to build an extra science, or materials found that are evidently beyond that creative record, therefore the Bible is in the highest sense scientific. And the record that communicates such information to us is the most astonishing piece of historic composition found in the world. And is in the highest sense a suitable introduction of a revelation from the infinitely wise God to the world of mankind.

The Bible treats of science as if it was its supreme master, and though written in what men are pleased to call an unscientific age, it made no mistakes, it is a competent master.

The Word of God begins with a treatise on natural theology that surpasses all the wisdom of men. The selection of the materials compel men to look from nature up to nature's God, its author, because it enumerates necessary creations. And the sciences that are built upon these several necessary creations

are taught, as part of the curriculum, in all of our colleges and schools of learning. The things are real not imaginary. The sciences that are built on them true, their formulas and laws reliable, recognised by the learned world as true, and that, which is true science, is also true history, so far as the record of the facts is concerned.

The thing that men mean when they say: "The Bible is not a scientific book," is that though it may speak of natural objects treated of in scientific books, yet in such a loose and general way, that the statements cannot be subjected to scientific formulas, and laws, and should not therefore be held as of equal authority, or correctness, as compared with the deductions of science, as known in this advanced age of the world. The Bible however, has abundant evidence within itself, that it was given for all ages of the world, even for ages, yet to come, far more intelligent than this. It would be a dishonor to God, its author, alknowing, and alwise, and infinitely good, to write or dictate a sentence for men, that was only half thought out, that was erroneous through negligence, or untrue. It is impossible for God to be ignorant or negligent, or to lie. Therefore every sentence in the Bible is frought with meaning that must be true. And the history of God's work of creation, put in the plainest and simplest affirmative language possible is true history, and true science. In the race, and in the arena, of life among men, the Bible needs no handicap or favors as if it was a weak one, but at every point we are its scholars, not its masters, as some suppose. The world will never become so intelligent, that it can write its sciences, correctly without going to the Bible for the first principles of that same science, the creations of God, who also ordained the laws, by which that same creation stands. The time has come when we should defend the Word of God as one who fights for an invincible leader, without fear, and without asking or granting favors, for as he that made the eye must be able to see, so he that made the materials, on which all sciences rest, must be able to speak with intelligence and authority, when he tells us about the material universe he has brought into being. For his authorship of Genesis cannot be denied.

The record of creation is true history, for several very essential parts of it are undisputed in the historic truthfulness of

its affirmations. The author of the record said: "Let us make man in our image, and after our likeness; and let them have dominion over the fish of the sea; and over the fowl of the air; and over the cattle; and over all the earth; and over every creeping thing, that creepeth upon the earth." Gen. 1, 26. On two counts this part of the creative record is very noteable in its historic bearings. The consensus of all nations and races, and social grades of men has been that man was made in the image of God—His ideal divinities bore the human likeness. Jupiter, Juno, Brashma, Budha and Baal, and their idols were generally travesties on the human form. When considered more closely by the most intelligent of the race the same conviction is apparent. If we put an inventory of the powers of the human mind alongside of the attributes of God as set forth in His Word, and shown in the works of nature, the likeness is perfect, except that man's mind is marred by sin. Every attribute of God has its counterpart in the human intellect. It is a true historic statement that man was made in the image and likeness of God, the author and builder of all material things, together with the devising and ordaining the laws of nature, by which these material things are governed. For man too, is an architect, a builder, and a law giver. Gifted in all these respects by a principle higher than that of instinct, that directs similar gifts in the lower orders of the animate world. Second, the declaration: "Let them have dominion over all the earth" is a true historic statement, or first a prophecy and now a fact of history. And while there is much in nature, that he has not yet discovered, much less subjected to his will, yet the prophecy has been fulfilled to such an extent, that its truth has gone into the history of the race.

Third, it is an established fact that the food supply of the animate world is found in the vegetable world. Thus the creative record is complete to the finish. True history and true science. All comprehensive. A literary monument to the glory of God. A synopsis of scientific truth for the education of mankind, that will not be exhausted, or overdrawn to the end of time, because it embraces the foundations of all material and spiritual knowledge.

Natural theology rests upon a foundation as broad as the universe and on a basis as firmly laid as the laws of the universe.

THE RECORD OF CREATION IN ITS RELATIONS TO OTHER SCRIPTURES.

CHAPTER XV.

This record of creation having proved itself to be true history, as we have shown it, at the same time, proves itself to be Divinely inspired, because it claims to be inspired of God and surrounds itself with the indisputable proofs of truthfulness. All the matter and laws of the material universe bear testimony to its inerrency.

2. The claim of Divine inspiration is well taken because of the impossibility of finding any other competent author. For no man or school of men, whose biographies have been left us, could have composed it. They would have wrought human speculations into it, while now it is entirely free from all such errors. The mythologies of the ancient nations show us how men of other times did treat the question of the origin of things. Their writings show that they believed in evolutions instead of creations.

3. Also the claim of Divine inspiration is a true claim. because it is the only cosmogony in existence that is true to nature, and alcomprehensive. All others are mythical products frought with errors.

4. Also the writer does not claim to be its author, only its amanuensis, and, he is evidently sincere, and believes he is writing the words of God. And the exalted character of the composition is an evidence that the belief is justly held.

5. The evolution of human intelligence compels the belief in the Divine authorship of the record of creation. For the world of mankind has increased in intelligence along almost every line of human thought for perhaps six thousand years, and yet the philosophy and natural history of that record of creation. has been in the advance of the most learned men of every age of the world. And hence could not have been the product of human authorship. The laws of human thought and progress forbids it. Aside from the influence of revelation the united intelligence of this most learned age of the world could not produce such a record. Our higher critics, and many learned professors and

students of the Word are even now trying to prove the creative record a myth. Therefore we are compelled to believe in the Divine inspiration of the record of creation. And if God dictated Genesis, He dictated also the whole Bible. For the rest of the Bible is so joined to this record of creation that the doctrine of creation becomes one of the important proofs of the Divine authorship of the whole book. The record of creation is accepted in every part of the Bible as true. And is wrought into its language and is incorporated in its thought, and is illustrated by its miracles and by its co-ordinate lines of thought in its prophecies, teaching that all scripture was given by the inspiration of God. Therefore we are safe in saying that as this record of creation was an inspiration of God, so was all other scriptures joined to this, also inspirations of God. And holy men of God wrote them as they were moved to do by the Holy Ghost.

There are those who seem to think the record of creation a myth like the mythologies of India, or Egypt, or Greece, and if so, other scriptures have no higher authority. But like other myths were an evolution of human thought. And therefore this intelligent age was justified in rewriting and improving the history and doctrines of the Bible, by the labors of the higher critics.

But the first chapter of Genesis being true history and true scientifically the foundation stone of evolution and of higher criticism is taken away from them. And though we may be justified in rewriting and improving a myth, we are not justified in changing the Word of God though its teachings do not please us or suit our fancy. The Bible is God's covenant with man, and as it is esteemed a crime to change a legal paper or remove an old land mark, so it is a crime to change the wording or thought of the Bible, God's covenant with mankind.

As the record of creation appeals to the testimony of nature for evidence of its truthfulness, so the word of God in all of its subsequent parts continually appeals to visible phenomena as evidence of its truthfulness. Such as the working of miracles, the utterance of prophecies, the records of nations, the old and established civil authorities, the testimony of nature, the building of cities, the rise and fall of empires, the existence of the surrounding nations, the conquest of nations, the effects of captivity, the protecting providences of God, the records of the

Bible are filled with the biographies of its leading personages. There is the greatest possible publicity of all its events. Its witnesses are named, and their testimony recorded. The events of Bible history were not done in a corner, but the leading people and nations of the world were compelled to see them, and to be participaters in some of its parts, as they were transpiring. The light of the world was made to shine upon the Sacred Story of the Word of God. And that the Word of God might never cease to be a living subject of human thought by sinking into the grave of a dead past. The Hebrew people, around whom the Bible history was grouped, have been a live people in the world and their language a living language for no less than five thousand years. And the Hebrew people have been an active and vigorous factor in the affairs of the world's history from the days of Abraham until now, while everywhere this studied publicity is joined with the thought of Divine inspration.

When now we add to this evidence of Divine authorship the indisputable proofs that gather themselves about the record of creation affirming that God was its author, the testimony is without a break showing that God only could compose such a system of theology both natural and revealed. That God only could tell of the beginning of things, that God only could confirm His Word by miracles, and prophecies, that God only could give to men such power as was bestowed upon the apostles and prophets, and that God only, the creator of all things, could send His Son into the world to atone for the sins of a lost race.

THE ATTRIBUTES OF GOD AS REVEALED IN NATURE AND REVELATION.

CHAPTER XVI.

There is now one more point to be discussed: The relation of this record of creation to the being, and attributes of God. We will assume that it is an open question. And assume that the light of nature does not give to mankind, at least, a saving knowledge of God. It is believed however, by many of the most learned of men that they do. The plan of our work does not limit us to this line of evidence however, but the appeal is to the whole Word of God. The author of creation is also the author of inspiration. And natural theology is only one part of a system of theology that is as comprehensive as nature and revelation combined and which cannot properly be divided without weakening both parts. It was not designed to separate the arguments of inspiration. For all scripture is given by inspiration of God and is profitable for doctrine and instruction. The towering strength and greatness of scripture is seen in its massiveness. There is nothing to be gained by emasculating a doctrine of the Word of God by making it stand on part of its evidences. It was doubtless designed of God that His science, like all the other branches of natural science should be made as strong as possible, and for a full defense should have all the evidences of the Word of God gathered about it. The record of creation sets us an example. It embraces the whole of existing things, and we should not in a case like this take a part of the proofs of a great doctrine, ignoring the rest.

If God imprinted the number and character of his attributes on his works so that by the help of nature alone we may learn the number and character of them it is also evident that he did not design that we should trust our knowledge of him to that source of information alone, but that we should increase our knowledge from every source within our reach. Therefore he gave us an inspiration from above. The present chapter is designed to enumerate the attributes of God as he is known to us by the light of revelation. The former chapters speak of the wisdom, power, goodness and designs of God as seen in nature

and revelation. But, that we may get the proofs of the adorable attributes of the Divine Being, we appeal more directly to the Word of God as the only infallible source of information.

1. Personality of God. The scriptures affirm that man was made in the image of God, and man's personality is proof that God also is a person. And, as the great architect and builder of all things, his mind and will, the elements of personality, was before all things, he is the source of all personality.

2. Closely allied with personality is the idea of spirituality. The elements of personality are spiritual and intellectual; knowledge and will are immaterial; therefore the author of the universe must himself be a spirit because of the plan, purpose, and design everywhere manifested in it. And the scriptures affirm that God is a spirit. The spirituality of God does not seem to be very clear to the mind of man when in a state of nature. His divinities are all material images and objects of perception. Until the coming of Christ the world continually lapsed into idolatry, and since then the tendency has manifested itself in the adoration of pictures, crosses, and ikons. The knowledge of God as a spirit is dependent upon the Word of God. The devils, that men worship, are hardly types of God.

3. Unity. The singleness of the designs in nature argue the unity of its author. There is but one series of natural laws. The races of men have believed that among the gods one was greater than the others. But when we come to the scriptures, the Word of God tells us there is but one God. There is not another. One chief sin of the world has been a belief in a plurality of gods. There is doubtless a reason for this in the nature of things. This unity is not so concentrated as to compel men to see but one supreme ruler. To communicate this knowledge demanded a revelation and a long continued course of culture. On this point our theology would be very defective without a revelation attested by many infallible proofs. Our natural theology needs the help of Divine inspiration.

4. Infinity. As the author of nature, God must be everywhere present at the same time. For material existence proves the necessity of spiritual presence, on which it depends, and the expanse is without a limit. In this infinity of space the Infinite God carries forward an infinite series of Dvine providences. The scriptural use of this attribute is brought out in the Word of

God, by the requirements of religious worship. Men everywhere in all lands, are exhorted to call upon God, and are taught that God is able to hear and answer their prayers; and declares that God is everywhere present beholding the evil and the good. He sends his rain upon the just and upon the unjust; he cares for the sparrow as well as the worlds; even the hairs of our heads are all numbered.

5. Omniscience. As related to the attribute of infinity, we have the attribute of omniscience. That God may rule the universe he must know all the possible relations of all the possible events of both the material and spiritual world. It cannot be possible to deceive God at any time, or that he be mistaken in any of his conclusions, or defeated in any of his plans. God does not acquire knowledge. He knows the end of things from their beginning. By his omniscience God is a true prophet, and the prophecies of scripture are a proof of the truth of this attribute.

The question may be raised: Does the unaided mind of man discover this attribute of God? We think not, hence the need of a revelation from God in order that we may write this point of a natural theology.

6. Omnipresence is joined with infinity of being, and the argument in its defense is in part the same. For it must be allowed that God is where he is at work, and it is a necessary truth that he is each moment carrying on his affairs in every part of the infinite universe. The position of the psalmist is true, that he could not flee from God's presence by height or depth, or life or death, or into any hiding place. And the creative record shows that the attribute has not been changed by the flight of ages; the countless ages of the world's life.

7. Omnipotence is that attribute of the Divine will to which no limit of power can be assigned. Whatever he wills comes to pass immediately. The doctrine is illustrated in scripture by the working of miracles, in which the specificaton is made in many of the events recorded, that the sick were healed immediately.

By abstract reasoning mankind might come to the belief, that the one true God had all power in heaven, and on earth, but for clear connection he needs illustrations. These were, by the wisdom of God furnished, by the record of creation, and by the performing of many miracles in a vast variety of forms,

wrought under such circumstances, and on such materials as were adapted to bring conviction to every inquiring mind, and were in every case illustrations of Divine power. These miracles were scattered through almost every department of activity and work, demanding the display of Divine power in order to its accomplishment. As the gift of children, the raising of the dead, the healing of incurable diseases, the creation of food stuff, bread, meat, manna, water, oil, meal, in some cases in quantities sufficient for a nation, and at stated hours for a series of years. Years of plenty and of famine involving the greatest nations of the world.

By all these God was pleased and saw it to be needful to illustrate his Word so that by the exercise of a reasonable faith we may be able to prove and establish a system of theology containing this doctrine. Mankind might by reason alone, under the most favorable circumstances find out this attribute of God, but that the quest may be truly successful and universal these many illustrations of Divine power were necessary. That this help was really needed may appear in that God was willing to give, line upon line and precept upon precept, and continue the lessons through many centuries and to involve the whole world in their grasp and now continues to embrace the whole world of mankind.

And thus it is by these inspired helps we are able to put on a sure basis a science founded on the relation of God to nature and not have it overdrawn. This is a co-ordinate of omniscience: God sees everything and therefore knows everything. And wisdom implies the added power of choosing the best possible ends and means of accomplishing all things through proper means. By this wisdom God does all things and makes no mistakes. Supreme wisdom is supreme reason. We say infinite in wisdom, because there is no problem in the solution of which the Divine counsels need ever be changed in all the complicated affairs of the universe. And now revelation locates this wisdom in a person and tells us where he resides and defines his associated attributes.

9. Holiness. As an attribute of God signifies that the Divine mind in all of its acts is eternally and perfectly in harmony with righteousness. This righteousness he has wrought into the framework and providences of the world and made it

a part of the human soul to the extent that the mind in its normal state cannot become so darkened as to lose the knowledge of right and wrong. But for practical purposes the knowledge does not seem to have saving power from the fact that the divinities of the heathen world have been depraved ideals. The gods of the Greeks and the Romans were sensualists, and the divinities of the nations living in paganism are not clean. A system of theology written by the light of nature alone will be a defective system. A man must be born from above before he can even know the new life that is in Christ, Jesus. And though twenty centuries have come the unconverted nations are as far from righteousness as were the ancients. Holiness has not grown up in the world away from Divine guidance. Hence we may note again that in order to frame a complete system of natural theology, we must not only have a revelation but also like Nickodemus must be born again before we can even believe the tenets of such a theory.

The scriptures seem to teach that we know enough by the light of nature to be lost but not enough to regain Eden; hence again the need of a revelation to frame a true theology or acquire a right belief. Seemingly the same is true in regard to our knowledge of the various departments of natural science. That our works on natural science may be true we need the help of God and of a revelation as shown in the preface of this work. For guided by their own counsels scientists have evidently fallen into some very serious errors, even in modern times, which the Word of God corrects. Which thought shows again that to frame correctly a work on natural theology, we need a revelation from God.

10. Goodness, love and benevolence are synonymous terms for this goodness. The idea intended to be set forth by the term is that God delights to communicate the highest good to his creatures. Benevolence is wishing the well being of his creatures. Love is a diposition to do them good. Under this head we may note that the supreme goodness of God is not known by those who do not have the Word of God. We learn this attribute by the teachings and the works of the Son of God, and by the influence of the Holy Ghost, as we are taught in John 3, 16. Which point shows again that a natural theology, to be true,

must be illumined by inspiration, and to be built on a sure foundation, must be on the Word of God and not on reason alone.

11. Love and Benevolence. The love and benevolence of God are learned by revelation from above. And though revealed in the beginning in the promise to our parents in Eden, they were not fully comprehended until Christ came and finished the work of redemption. Even the apostles were slow to believe the Divine love, which like all the other attributes of God, are infinite, and hence the need of a revelation of them that the world may come to know them. And even now it is by the Spirit of God moving upon us that we came to know God.

12. Truth. The Divine attributes supplement each other. Each participates in the Divine character, and is infinite. Truth is an attribute that seeks after and defends that which is right.

Now it is a notable fact that the minds of all races of men possess this attribute of truth. They show that they know the difference between truth and falsehood, and they accredit a like attribute to their divinities. But the fact is equally notable that they have failed in every instance when their theologies have been written out to then give their Deites a character that was clean and perfect in truth. The gods of the heathen world are all corrupt. Their attribute one of the human standard of truth and righteousness, while some of their divinities are skilled in duplicity. And men in a state of nature have not succeeded in leaving on record a system of theology that gave a true idea of the attributes of the one true God. And we must conclude therefore that in order to the production of such a system of theology it was necessary that God reveal his real character and attributes to men in the very plainest way possible.

And when God made such a revelation it was essential to the progress of knowledge that it be done.

The strongest point showing the need of a revelation in order to the successful production of a sound system of theology is the existence of evil in the world. How can the problem of good be reconciled with the existence of the evil that exists and the Supreme Being be righteousness? That problem is solved only by a revelation and the atonement. By this light alone we learn of all the adorable attributes of God.

THE RELATION OF THE RECORD OF CREATION TO OUR SCHOOLS OF LEARNING.

CHAPTER XVI.

All true progress is through a sound philosophy

A system of philosophy is a summary statement of the principles of a branch of science, art, mechanics, or history. Each department of knowledge has its own philosophy.

An education is a course of training in some branch of philosophy, or is an acquisition of the precepts and principles of some department of art, or field of science. This training to be valuable must not be speculative but practical. At this point we may note there are those who seem to think that true philosophy may be advanced by theories and speculations. They spend time working on hypothetical problems. Real progress has however been by induction, by searching along the border land for things that are new and then enlarging the field of vision.

Errors in scientific speculations have been a hindrance to the true progress of scientific investigations in astronomy, in chemistry, in geology, in theology, in sociology, in raciology, in philosophy. Errors in these fields of study delayed the progress of knowledge for many centuries in all the world, and hold half of the human family in the bonds of ignorance today. The world is filled with the wrecks of false philosophies, or is even now going to the bad because of some unsound theory of philosophy, perhaps of government, or of science, or of religion.

Errors in one department may be a hindrance to progress in another, as errors in scientific speculations have been a hindance to a proper understanding of the Word of God, in its account of the origin of things, in its doctrine of inspiration, in its records of history, in the truth of its declarations on scientific questions. And on the other hand these speculations may be the defenders of rationalism, materialism and heathenism.

In order therefore to a profitable use of our time and the speedy acquisition of knowledge we need sound principles of philosophy to start with, then we do not have to unlearn anything learned amiss, but every step made is one of real progress.

Now just at this point the record of creation gives to the world the true starting point for the acquisition of knowledge, and also the true principles of each department of science. The record of creation is so worded as to embrace all things, and gives the rational and necessary starting point of each; and also saves the labor of a thorough classification, one of the most difficult of all the steps in the acquisition of knowledge. This record of creation helps us until as growing children we are able to help ourselves.

The record of creation gives the most comprehensive curriculum of study found in the world. It actually embraces all things, and is practically inexhaustible.

It is a notable fact that those institutions of learning give the highest satisfaction that come the nearest to this inspired summary of knowledge. Also those governments are the strongest that accept their principles of moral and mental philosophy, their theology, and form of government from the records of inspiration.

Western civilization has been stronger than eastern civilization, but as eastern nations accept the civilization of the west they become stronger.

As the colleges of Europe and America are extended to other parts of the world all races of mankind become intelligent. And it is a notable fact though not in every case so designed, the course of study in our colleges largely conforms to the requirements of the record and order of creation.

The superiority of Christian civilization over all other forms that exist in the world is dependent upon the correctness of its principles of philosophy as found in all departments of science, all forms of machinery, all principles of government, and its systems of theology and morals.

The record of creation is the foundation of all things. It marks the beginning of time and material things.

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